

agnostic decisions, and that the WHO "suspect case" definition does not include radiographic findings, it is no wonder that physician judgement was more accurate. It would have been fairer to compare physician judgement with the WHO "probable case" definition, which includes radiographic evidence.⁴

Finally, the WHO criteria had poor sensitivity for ED screening because fever and respiratory symptoms are often delayed, in some cases appearing after radiographic changes.² In the Wong Wing Nam study, a patient who presented with a fever of 37.8°C, a positive contact history and radiographic changes would most likely have been correctly admitted as a suspected SARS case according to physician judgement, but would be considered a "miss" by the WHO criteria, even if the patient later progressed to develop a higher temperature (>38°C) and respiratory symptoms. In such a case, the ED physician was accurate, and the WHO criteria fulfilled its surveillance function. It is important to recognize the distinction between "screening tool" and "case definition." Misunderstanding may lead to unnecessary discredit to the WHO.

**Stewart S. Chan, MBBS(Syd),
FRCSed, FHKAM (EM)**

Honorary Clinical Assistant Professor
The Chinese University of Hong Kong
Emergency Physician
Accident & Emergency Medicine
Academic Unit
Prince of Wales Hospital
30–32 Ngan Shing St.
Shatin, New Territories, Hong Kong

References

1. Wong WN, Sek ACH, Lau RFL, Li KM, Leung JKS, Tse ML, et al. Accuracy of clinical diagnosis versus the World Health Organization case definition in the Amoy Garden SARS cohort. *Can J Emerg Med* 2003;5(6):384-91. Epub 2003 Oct 22.
2. Rainer HT, Cameron PA, Smit D, Ong KL, Hung AN, Nin DC, et al. Evaluation of WHO criteria for identifying patients with severe acute respiratory syndrome out of hospital: prospective observational study. *BMJ* 2003;323:1354-8.
3. Thompson J. SARS: finding a deadly needle in the haystack [editorial]. *Can J Emerg Med* 2003;5(6):392-3.
4. World Health Organization. Case definitions for surveillance of severe acute respiratory syndrome (SARS). Geneva: The Organization; 2003. Available: www.who.int/csr/sars/casedefinition/en (accessed 2003 Dec 5).
5. Wong WN, Sek ACH, Lau RFL, Li KM, Leung JKS, Tse ML, et al. Early clinical predictors of severe acute respiratory syndrome in the emergency department. *Can J Emerg Med* 2004; 6(1):12-21. Epub 2003 Dec 2.

**Correct way to wear
respirator head harnesses**

To the Editor: The cover photo of *CJEM*'s July 2003 issue showed 3 physicians who had intubated a patient at the North York General Hospital in Toronto.

My training in occupational hygiene at Mount Royal College and with the Canadian Navy gave me familiarity with respirators, and I noticed the 3 were wearing full face respirators with the head harnesses outside the hoods of their protective suits. One worker was wearing a hair net under his mask, which was visible through the visor.

Wearing respirators in this manner reduces the protection afforded. The correct way to wear the respirator head harness is under the hood of the protective suit. Hair nets are not to be worn under the respirator.

Protective equipment gives a false sense of security when worn incorrectly. The 3 workers in the picture were doing just that.

SARS is a very serious disease, and full protection is a must.

Heather Dawn Green
Peter Lougheed Centre
Calgary, Alta.

**Medical myth:
The usefulness of pelvic exam**

To the Editor: When I first read the article by Brown and Herbert¹ in *CJEM*, I thought it was amusing. However, its conclusion was illogical and not supported by the studies cited. I believed that this was not a critical review of the literature and was not a threat to the time-honoured practice of pelvic examination used to guide ancillary investigations. It was not going to change my practice.

I have since discovered that some of my less experienced colleagues have misinterpreted this article and have stopped doing pelvic exams — instead, they are arranging outpatient ultrasounds for the next day, since our hospital does not provide 24-hour availability. My colleagues no longer perform speculum examinations to assess bleeding, discharge, foreign bodies, traumatic or other lesions; and they do not remove products of conception from the cervical os. Nor do they perform bimanual pelvic examination for the rapid and helpful information it provides. They have accepted Brown and Herbert's "evidence-based" statements questioning the usefulness of this procedure. Their change in practice compels me to address the quality of this article and its recommendations.

A key problem is the authors' premise that an investigation is useless unless it has the sensitivity and speci-

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ficity to rule out or rule in pelvic disease. But emergency medicine is not so simple, and we use many tests that are not definitive. If only it were true that we could ignore clinical findings and just order a test to make every diagnosis — perhaps run all patients through a universal scanner! In reality, we must weigh information from the history and physical examination, formulate a differential diagnosis and use clinical features to guide further investigations. For the pelvic exam to be discarded, it would have to be more misleading than helpful, and even the studies cited do not suggest this.

Let's look at the studies presented as evidence.

The study by Close and coworkers,² which was used as evidence that bimanual exam is unreliable, was designed to fail. If one physician was unsure about a finding and the second physician thought the finding was absent, the authors considered this a discrepancy (error). Yet the data still showed 82% agreement on cervical motion tenderness, 72% agreement on adenexal and uterine tenderness and 84% on the presence of adenexal mass. The study by Padilla and cohorts³ concluded that the pelvic exam is 79%–92% specific and only 15%–36% sensitive for adenexal masses. But this study³ looked at anesthetized patients, a very different group than the awake patients emergency physicians examine — patients who are capable of indicating the location of tenderness, therefore helping to guide us to the location of the mass. Two studies,^{4,5} published before the availability of sensitive beta-hCG tests, were cited to show the unreliability of pelvic exam in pelvic inflammatory disease (PID). Given that the authors at this time were not even able to reliably detect pregnancy, it is not surprising they had difficulty making a correct diagnosis using physical exam alone. Today, the

first decision point — pregnant/not pregnant — is easy; then we use the pelvic exam to guide ancillary investigations such as cervical cultures, ultrasound, and even CT. A study by Houry and Abbott⁶ was cited as evidence that pelvic exam is unreliable in detecting ovarian torsion, but this was a retrospective chart review where, if the physician failed to adequately document pelvic exam findings, the findings were considered to be absent. It is inappropriate to make conclusions about the value of the physical exam using this retrospective methodology.

Of note, a well-designed study by Dart and colleagues⁷ identified several pelvic exam findings, including cervical motion tenderness, lateral pelvic tenderness and uterine size less than 8 weeks, that are thought to be useful in diagnosing ectopic pregnancy. Although these authors did not identify a combination of findings highly accurate for ectopic pregnancy, they concluded that history and physical examination will continue to play an important role in determining the need for emergent ultrasound.

Two papers^{8,9} were cited to show that ultrasound is superior to clinical examination. But both reported remarkable specificity (and reasonable sensitivity) for bimanual examination, and neither groups suggested that the pelvic exam was useless. In fact, Andolf and Joergensen⁸ concluded that ultrasound was a useful complement to pelvic exam, but that neither modality reliably detected tubal anomalies, while Frederick and cohorts⁹ concluded that vaginal ultrasound is an effective routine adjunct to physical examination in the preoperative evaluation of surgical patients.

Brown and Herbert conclude that clinical examination of the female pelvis is not an adequate, reliable or reproducible method for evaluating sig-

nificant pelvic pathology, but does their article make a compelling and evidence-based case supporting this conclusion? I for one would want better evidence before abandoning pelvic examinations.

Paul Rosenberg, MD

Toronto, Ont.

References

1. Brown T, Herbert M. Medical myth: Bimanual pelvic examination is a reliable decision aid in the investigation of acute abdominal pain or vaginal bleeding. *Can J Emerg Med* 2003;5(2):120-2.
2. Close RJH, Sachs CJ, Dyne PL. Reliability of bimanual pelvic examinations performed in emergency departments. *West J Med* 2001;175:240-4.
3. Padilla LA, Radosevich DM, Milad MP. Accuracy of the pelvic examination in detecting adenexal masses. *Obstet Gynecol* 2000;96:593-8.
4. Jacobson L. Differential diagnosis of acute pelvic inflammatory disease. *Am J Obstet Gynecol* 1980;138:1006-11.
5. Eschenbach DA. Epidemiology and diagnosis of acute pelvic inflammatory disease. *Obstet Gynecol* 1980;55:142S-52S.
6. Houry D, Abbott JT. Ovarian torsion: a fifteen year review. *Ann Emerg Med* 2001;38:156-9.
7. Dart RG, Kaplan B, Varaklis K. Predictive value of history and physical examination in patients with suspected ectopic pregnancy. *Ann Emerg Med* 1999;33:283-90.
8. Andolf E, Joergensen C. A prospective comparison of clinical ultrasound and operative examination of the female pelvis. *J Ultrasound Med* 1988;7:617-20.
9. Frederick JL, Paulson RJ, Sauer MV. Routine use of vaginal ultrasonography in the preoperative evaluation of gynecologic patients. *J Reprod Med* 1991;36:779-82.

Pneumatosis intestinalis

To the Editor: I would like to commend Dr. Liu and colleagues on their excellent case report,¹ “Benign pneumatosis intestinalis: a cause of massive pneumoperitoneum in the adult.” The *Canadian Journal of Emergency Medicine* arrived at my house on Wednesday, and by Friday I was able to put the arti-