

Caring for international patients

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TO THE EDITOR: We read with great interest the article by Drs. Cawcutt and Wilson on caring for international patients.¹ They provide an overview of the challenges of delivering medical care for these patients (eg, cultural differences) and the likely benefits from such interactions (eg, gaining cultural knowledge). Having practiced medicine in 3 different continents and experienced working in various medical centers caring for international patients, we would like to offer a slightly different viewpoint.

First, gaining cultural knowledge should be regarded as a prerequisite for healthcare workers involved in the care of international patients, rather than the expected benefit and consequence of such encounters. Healthcare workers with some knowledge of an international patient's culture are best able to serve that patient.² Indeed, unless knowledge of cultural differences is obtained before such interactions, there is a significant risk of stereotyping by amplifying the sense of "otherness," which is unfortunately too often mistaken for cultural sensitivity. The perception of the stereotypes and prejudices during the second stage of cultural adaptation (ie, irritation, hostility) often stems from the host's lack of cultural knowledge. Table 1 of their article clearly reflects such risk: the authors have tried to exemplify the concepts they discussed through a number of real-life scenarios. But indeed some of those cases (eg, the man from Saudi Arabia) could be interpreted more as examples of stereotyping than cultural sensitivity.

Second, the authors do not mention requests by family members of international patients for nondisclosure of serious medical diagnoses, one we have frequently received from family members from different cultural backgrounds. These requests represent another challenge of caring for these patients as they counter our obligation for full disclosure and the patients' right to know in order to

be able to make informed decisions regarding their medical care.³

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2. **Martin DR.** Challenges and opportunities in the care of international patients: clinical and health services issues for academic medical centers. *Acad Med* 2006;81:189–192.
3. **American Medical Association Code of Ethics.** <https://www.ama-assn.org/sites/default/files/media-browser/code-of-medical-ethics-chapter-2.pdf> Accessed November 28, 2016.

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IN REPLY: We appreciate the comments, and we fully agree about the dangers of blurring sensitivity and stereotyping in medicine. We also recognize that health providers working around the world have distinct backgrounds and unique perspectives, which serve to enrich the discussion.

We agree that gaining cultural knowledge should be a prerequisite for healthcare workers. However, healthcare providers may not uniformly have the opportunity, time, or resources for this training. Additionally, providers working in large group practices including referral and academic medical centers often do not have control over scheduling of patient appointments. Therefore, rather than prohibiting the evaluations of international patients, we advocate for the utilization of a few guiding and common principles to optimize a mutually beneficial patient care experience. Despite inherent inadequacies and potential prejudices, healthcare providers do learn through patient encounters. Within this learning environment, mistakes will be

made, but there are also opportunities for further self-improvement.

We agree there is a fine line between sensitivity and stereotyping, along with common misunderstandings regarding patient labeling. Identifying the geographic homeland of a patient could be misconstrued as intent to stereotype patients. However, numerous infectious diseases and many noncommunicable syndromes are disproportionately represented within select countries. Thus, we feel the identification of a patient's homeland along with ethnicity, age, gender, and pertinent socioeconomic details can be done respectfully and remain an important collective part of the active medical history and serve to optimize care for each patient. Within medical education, we often find ourselves generalizing patient presentations and symptom profiles.

Yet we must recognize that the generalized concepts cannot apply to everyone. Medicine remains a profession of humility—both in our willingness to consider additional diagnoses and in our openness to care for patients of different backgrounds. With this humility, we hope to avoid the pitfalls of patient stereotyping, misjudgments, and misunderstandings.

Finally, the nondisclosure of serious medical diagnoses at the request of family members can be a tricky issue. It can be most difficult to balance unique wishes of a family with the ethics of accurate patient communication and compliance with legal statutes and medical center policies. We advocate a team approach with family members of international patients as a way to avoid breaches in medical ethics or breaks in mutual family trust.

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Acid-base disturbances

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TO THE EDITOR: In their article “A patient with altered mental status and an acid-base disturbance,”¹ Drs. Shylaja Mani and Gregory W. Rutecki state that 5-oxoproline or pyroglutamic acidosis is associated with an elevated osmol gap. This is not the case. The cited reference by Tan et al² describes a patient who most likely had ketoacidosis, perhaps complicated by isopropyl alcohol ingestion.

Those disorders can certainly generate an osmol gap. Although pyroglutamic acidosis was mentioned in the differential diagnosis of that case, that condition was never documented. The accumulation of 5-oxoproline or pyroglutamic acid should not elevate the serum osmolality or generate an osmol gap.

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1. Mani S, Rutecki GW. A patient with altered mental status and an acid-base disturbance. *Cleve Clin J Med* 2017; 84:27–34.
2. Tan EM, Kalimullah E, Sohail MR, Ramar K. Diagnostic challenge in a patient with severe anion gap metabolic acidosis. *Case Rep Crit Care* 2015; 2015:272914.

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IN REPLY: We thank Dr. Emmett for his insightful comment. He is correct that in the case reported by Tan et al the elevated osmol gap was not a *direct* result of the patient's presumed acetaminophen ingestion but more likely another unidentified toxic ingestion. The online version of our article has been modified accordingly (also see page 214 of this issue).

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Altered mental status and an acid-base disturbance

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TABLE 2

'Rules of 5' for acid-base problem-solving**1 Determine the arterial pH status**

pH < 7.40 is acidemic, pH > 7.44 is alkalemic
But a normal pH does not rule out an acid-base disorder

2 If the arterial pH is abnormal, determine whether the primary process is respiratory, metabolic, or both

	pH	Pco ₂	Bicarbonate
Respiratory acidosis	Low	High	—
Metabolic acidosis	Low	—	Low
Mixed respiratory and metabolic acidosis	Low	High	Low
Respiratory alkalosis	High	Low	—
Metabolic alkalosis	High	—	High
Mixed respiratory and metabolic alkalosis	High	Low	High

3 Calculate the anion gap

Anion gap = sodium – (chloride + bicarbonate)

If serum albumin is low, add 2.5 mmol/L to the anion gap
for every 1 g the serum albumin is below normal

An anion gap > 10 mmol/L is elevated

4 Check the degree of compensation (respiratory or metabolic)

Pco₂ and bicarbonate should move in the same direction

Nominal normal levels: bicarbonate 25 mmol/L and Pco₂ 40 mm Hg

In respiratory acidosis, for every 10-mm Hg increase in Pco₂,
bicarbonate should increase by 1 mmol/L in the first 48 hours
and 4 mmol/L afterward

In metabolic acidosis, for every 1-mmol/L decrease in bicarbonate,
Pco₂ should decrease by 1.3 mm Hg

In respiratory alkalosis, for every 10-mm Hg decrease in Pco₂,
bicarbonate should decrease by 2 mmol/L in the first 48 hours
and by 5 mmol/L afterward

In metabolic alkalosis, for every 1-mmol/L increase in bicarbonate,
Pco₂ may increase by 0.6 mm Hg

5 If the patient has metabolic acidosis with an elevated anion gap, check whether the bicarbonate level has decreased as much as the anion gap has increased

In metabolic acidosis, the anion gap should increase by the same amount that bicarbonate decreases; a difference in these two changes is called a delta gap

Pco₂ = partial pressure of carbon dioxide

Based on information in reference 1

In the article “A patient with altered mental status and an acid-base disturbance” (Mani S, Rutecki GW, *Cleve Clin J Med* 2017; 84:27–34), 2 errors occurred in Table 2. The corrected table appears at left, with corrections shown in red:

In addition, two sentences in the text regarding the osmol gap should be revised as follows:

On page 31, the last 3 lines should read as follows: “When the anion gap metabolic acidosis is multifactorial, as it was suspected to be in a case reported by Tan et al,²³ the osmol gap may be elevated as a consequence of additional toxic ingestions, as it was in the reported patient.”

And on page 33, the last sentence should read as follows: “As reflected in the revisions to MUD PILES and in the newer GOLD MARK acronym, the osmol gap has become more valuable in differential diagnosis of metabolic acidosis with an elevated anion gap consequent to an expanding array of toxic ingestions (methanol, propylene glycol, ethylene glycol, and diethylene glycol), which may accompany pyroglutamic acid-oxoproline.”

Cardiopulmonary exercise testing

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In the article, “Cardiopulmonary exercise testing: A contemporary and versatile clinical tool” (Leclerc K, *Cleve Clin J Med* 2017; 84:161–168), an error occurred in Table 1. Heart rate reserve was defined as maximum heart rate minus resting heart rate. It should be defined as (maximum heart rate minus resting heart rate) divided by (predicted maximum heart rate minus resting heart rate).