

www.icmje.org). The authors have stated that no such relationships exist. This program was supported in part by the Gilead Sciences, Inc. FOCUS program and the Baltimore City Health Department.

1. White DA, Giordano TP, Pasalar S, et al. Acute HIV discovered during routine HIV screening with HIV antigen-antibody combination tests in 9 US emergency departments. *Ann Emerg Med.* 2018;72:29-40.
2. Insight Start Study Group. Initiation of antiretroviral therapy in early asymptomatic HIV infection. *N Engl J Med.* 2015;373:795-807.
3. Signer D, Peterson S, Hsieh YH, et al. Scaling up HIV testing in an academic emergency department: an integrated testing model with rapid fourth-generation and point-of-care testing. *Public Health Rep.* 2016;131(Suppl 1):82-89.
4. Rothman RE, Saheed M, Hsieh YH. Infectious disease/CDC update. Detection of acute HIV infection in two evaluations of a new HIV diagnostic testing algorithm—United States, 2011-2013. *Ann Emerg Med.* 2014;63:56-60.

Abandoning Further Study of the Application of Computed Tomography Decision Rules to Low-Risk Patients With Head Injury



To the Editor:

I read with interest the article by Davey et al.¹ The authors explain that despite the presumably low prevalence of intracranial hemorrhage, their “unique cultural practice” involves the performance of head computed tomography (CT) for patients with minimal head injury (head trauma without associated loss of consciousness or disorientation) for various reasons. Unsurprisingly, when Davey et al applied the Canadian CT Head Rule to their cohort, which was at lower risk than the population in which the rule was derived and validated, the rule identified all 5 positive CT results. The predictably low disease prevalence resulted in an extremely imprecise point estimate for sensitivity (100%; 95% confidence interval [CI] 48% to 100%) and led the authors to conclude that “...larger studies are needed to confirm these results.” However, I propose that we dispense with any further study of a CT head rule in low-risk patients with head injury.

An accurate estimate of the Canadian CT Head Rule’s sensitivity in this population would require hundreds more patient exposures to carcinogenic CT radiation, with practically no medical benefit. Davey et al report 2.1% prevalence (95% CI 0.8% to 4.9%) of intracranial hemorrhage and 0% (95% CI 0.0% to 1.9%) that required surgical intervention. Appropriately, the authors acknowledge that “the argument can be made that none of these patients required a head CT and that applying the

Canadian CT Head Rule to the minimal-risk population could decrease the diagnostic yield and increase unnecessary testing.” In a similar population, Quaa et al² reported 3.3% intracranial hemorrhage (95% CI 2.1% to 5.1%) and 0.2% that necessitated surgery (95% CI 0.0% to 1.1%). Despite these published data, physicians often overestimate pretest probability of intracranial hemorrhage in patients with minor head injury,² and 24%¹ to 34%² order CT for their own reassurance. Instead of trying to further validate CT decision tools in low-risk cohorts, we should focus on physician and patient counseling in regard to low disease prevalence and incorporate this guidance within a shared decisionmaking intervention.³ When compared with “usual care” in a randomized controlled trial, such an intervention may be significantly more effective in reducing CT imaging in low-risk populations.

Decreased benefit of testing (ie, finding nonsurgical lesions) and increased cost have been associated with decreased patient preference for head CT.⁴ Most patients prefer to discuss CT radiation risk.⁵ And as the probability of life-threatening injury decreases, fewer patients choose to undergo CT⁵; when presented with a life-threatening injury threshold of 2%, 34%² to 54%⁵ of patients may decide to forgo CT. When a physician is uncomfortable or a patient voices expectations, a shared decisionmaking intervention with decision aids, if necessary, may (1) present a reasonably accurate estimate of the low probability of both any intracranial hemorrhage (2.1% to 3.3%) and life-threatening intracranial hemorrhage that would require surgical intervention (0.0% to 0.2%); (2) disclose risk estimates of CT radiation and hospital admission (that may include serial CT surveillance of likely nonsurgical lesions); and (3) in some cases, discuss financial obligation. The patient with sufficient medical decisionmaking capacity and social support may then choose to defer CT and undergo a brief period of ED observation instead.

Ian S. deSouza, MD

*Department of Emergency Medicine
SUNY Downstate Medical Center
Kings County Hospital Center
Brooklyn, NY*

<https://doi.org/10.1016/j.annemergmed.2018.07.005>

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). The author has stated that no such relationships exist.

1. Davey K, Saul T, Russel G, et al. Application of the canadian computed tomography head rule to patients with minimal head injury. *Ann Emerg Med.* 2018;72:342-350.
2. Quaas J, Derrick B, Mitrani L, et al. Survey of patient and physician influences and decision-making regarding CT utilization for minor head injury. *Injury.* 2014;45:1503-1508.
3. Melnick ER, Probst MA, Schoenfeld E, et al. Development and testing of shared decision making interventions for use in emergency care: a research agenda. *Acad Emerg Med.* 2016;23:1346-1353.
4. Porath JD, Meka AP, Morrow C, et al. Patient preferences for diagnostic testing in the emergency department: a cross-sectional study. *Acad Emerg Med.* 2018;25:627-633.
5. Rodriguez RM, Henderson TM, Ritchie AM, et al. Patient preferences and acceptable risk for computed tomography in trauma. *Injury.* 2014;45:1345-1349.

Decisionmaking in Emergency Medicine: Experienced-Based and Contextually Anchored Rather Than Evidence Based and Universal



To the Editor:

In 2006, Sandhu et al¹ called for researchers to undertake more studies to understand how emergency physicians make their decisions. The study by Wright et al² sheds new light on this field of research in terms of the weight of experience and the role of context in decisionmaking.

The results concerning the percentage of risk of an adverse outcome that leads emergency physicians to place patients under observation and its variability from one physician to another, the influence of the horror stories experienced or heard by a physician on his or her decision, and the discrepancy between the statements of emergency physicians about their preference for a particular process and the reality of their reasoning² show the crucial role played by the physician's experience on how decisions are made. This "individualization" of decisionmaking mechanisms seems to be reinforced by the influence of personal factors such as risk aversion.²

From a contextual standpoint, the results discussed by Wright et al tend to confirm research that postulates that context has a major influence on decisionmaking.^{3,4} The heuristics used by emergency physicians included in the study to manage patients with abdominal pain would thus likely be very different in other, less acute contexts of medical practice. The authors have shown that these mechanisms are above all intuitive and therefore irrepressibly mobilized, which demonstrates the very high level of internalization of the specificities and requirements linked to the context; in this case, in regard to the need for risk stratification in emergency departments.

All these elements underline the plurifactorial and multidimensional nature of decisionmaking, which legitimates a move away from the experimental dogma toward the conduct of research on decisionmaking *in context* and the interpretation of the results of this research in regard to a context and its specificities. This contextualized approach involves implementing specific data collection and analysis techniques to enable emergency physicians to make their reasoning explicit in the situation, and not simply to express an opinion or share their representation of what their reasoning is or should be.

The results of the study by Wright et al lead us to conclude that

1. the cognitive processes described within the framework of the dual process theory are certainly "universal"⁵ because they are consistently found in research based on this framework, but the way in which they are mobilized and the result of this mobilization are strongly contextually anchored; and
2. clinical reasoning is first and foremost a story of an individual's experiences in a context, which highlights the highly idiosyncratic nature of decisionmaking, far removed from an idealized and frequently prescribed approach of Bayesian evidence-based reasoning.

These results are finally a new opportunity to launch a call to continue and intensify research in the field of emergency medicine decisionmaking because there is such a great need for understanding in this field and the results of this research are such as to enlighten the practices and training of emergency physicians.

Thierry Pelaccia, MD, PhD

Centre for Training and Research in Health Sciences Education (CFRPS)

Faculty of Medicine

University of Strasbourg

Strasbourg, France

Prehospital Emergency Care Service (SAMU 67)

Strasbourg University Hospital

Strasbourg, France

<https://doi.org/10.1016/j.annemergmed.2018.07.010>

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). The author has stated that no such relationships exist.