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Why We Need the Lede, in Both Journalism & Medicine

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In journalism, the "lede" is the first part of a news story. A good lede contains the key points and gives the general idea of the article. Ledes are also crucial in medicine.

When healthcare professionals communicate with each other, we use ledes all the time. Let's say a doctor is working in a clinic and is sending a university student to the emergency department. The doctor is concerned that the student could have meningitis. The patient—let's call him John Doe—is confused and has a fever. His blood pressure is low, but his heart rate is high. After calling 911, the doctor calls the ED to communicate that the patient is coming in an ambulance. The charge nurse answers the phone. Consider the following two scenarios and which has a better lede?

"I just sent an unstable, 21-year-old male to your department because I'm concerned he could have meningitis. His blood pressure is 86/52 and his heart rate is 120. His temperature is 102.2, he is confused, and his neck is stiff. His name is John Doe and he will be there in 5 minutes. The ambulance just left with him."

OR

"A patient came into my office this afternoon. His name is John Doe, and he is 21. He started feeling unwell yesterday after he got home from basketball practice. His roommates brought him to my office today because John became confused. When I checked John's blood pressure, it was low, and his heart rate was high. His neck was stiff and his temperature was up, so I think it could be meningitis. He just left here in an ambulance and he should arrive to you soon."

In the first example, the charge nurse knows from the first sentence that John's condition is serious. Already, she is thinking about the next steps, who she needs to notify, and the supplies they will need. The word "unstable" gives a hint about John's level of sickness. The specific numbers describing his blood pressure, heart rate, and temperature give an idea of the severity of his illness.

In the second example, it is not clear until the end of the paragraph that the doctor is thinking that John could have meningitis. A couple of unnecessary sentences may not seem like that much extra time, but in medicine, time can be crucial, especially in emergencies.

Visual-Evoked Potentials in MIGRAINEURS

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Although migraine is one of the most prevalent neurological conditions in the world, little is known regarding its cause and neural mechanism. Apart from intermittent headache attacks, migraineurs in previous research have reported strong visual sensations to light during the headache-free period, with striped patterns having been shown to induce strong visual illusions and discomforts. Other studies suggest that such abnormal experiences originate from the hyperactive, or hyperexcitable, visual cortex of migraineurs.

Testing a Hypothesis

For a study published in *NeuroImage: Clinical*, Terence Fong, PhD, and colleagues aimed to uncover neurological evidence supporting this hypothesis by comparing the visual-evoked potentials (VEPs) elicited by striped patterns of specific spatial frequencies (0.5, 3, and 13 cycles per degree [cpd]) between female migraineurs and non-migraineurs (controls). VEPs to the same patterns were also compared among non-migraineurs between those classified as hyperexcitable and non-hyperexcitable using a previously established behavioral pattern glare task. "Participants were asked to view certain striped patterns presented by a computer screen while their brain activities were recorded by electroencephalography (EEG)," explains Dr. Fong. They were instructed to gaze on a fixation point at the center of the grating.

Following the stimuli presentation, study participants ranked the intensity of the associated visual distortions (AVDs; visual pain, physical eye strain, unease, nausea, headache, dizziness, light-headedness, faint, shadowy shape, illusory stripes, shimmering, flickering, jitter, zooming, blur, bending of lines, and color distortions: red, green, blue, yellow) on a 7-point Likert scale (0 = not at all, 6 = extremely), with responses added together for a total AVD score for that grating (high, medium, or low frequency) and scores for each grating based on the average from the three repetitions for that spatial frequency.

Significantly Different Responses

"We found that migraineurs had a significantly different neural response compared with controls when gratings in high spatial frequency were presented," says Dr. Fong. Indeed, migraineurs were found to have significantly increased amplitude of N2—an electrophysiological response influenced by the sensory processing of the visual cortex—for stimuli with 13 cpd gratings (Table). N2 is a negative component generally peaked around 200 ms post-stimulus presentation. "In other words, migraineurs have a much stronger activation at their visual cortex compared with the normal population when they look at patterns in higher spatial frequency. Such abnormal neural responses could be associated with their visual discomfort and other visual experiences."

Non-migraineurs in the study who had stronger visual sensitivity to gratings appeared to have similar neural response patterns to migraineurs, albeit in an attenuated form, explains Dr. Fong.

Putting the Pieces Together

Based on the findings, Dr. Fong and colleagues believe migraineurs and some non-migraineurs both have a hyperexcitable visual cortex that lead to their abnormal visual sensations in their everyday life. "The 'hyperexcitability' appears to have shaped some people into being more neurologically vulnerable than others," Dr. Fong says. "These patients would be more likely to have abnormal visual sensations or even migraine headaches, which can be triggered by various environmental or physiological factors, including strong visual stimulations, stress, sleep deprivations or hormonal change."

Dr. Fong notes a desire for future research focused more on the "sub-clinical group"—those without migraine but with migraine-like experiences—identified in this study, as comparing this population with actual migraineurs both psychologically and physiologically could provide a better understanding of the factors that trigger or prevent migraine. "A better understanding of the brain's physical structure would certainly help migraine research," he adds.

Table Comparing Results

The table below shows results of independent *t*-test and Bayes factor (BF_{10}) on N2 amplitudes between migraineurs and controls with standard error in parentheses.

Mean amplitude (μV)	Migraine	Control	t-stat	Uncorrected *p*-value	FDR-corrected *p*-value	BF10
HF	-2.67 (0.40)	-1.21 (0.35)	2.74	.008	.024	5.59
MF	-0.28 (0.49)	0.80 (0.66)	1.30	.20	.20	0.53
LF	-3.39 (0.47)	-2.23 (0.57)	1.56	.12	.18	0.73

Abbreviations: FDR, false discovery rate; HF, high frequency; LF, low frequency; MF, medium frequency.

Source: Adapted from: Fong C, et al. *Neuroimage Clin.* 2019, Dec 16. [Epub ahead of print].

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Providing Patients Record Access

This article was originally published in Medical Economics *and is written by Keith Loria.*

Many physicians aren't aware that, with limited exceptions, HIPAA gives patients the right to get copies of all their medical records and allows them to see all original medical records, usually at a medical provider's office.

Shuhan He, MD, an emergency medicine physician at Massachusetts General Hospital, says one of the most common misconceptions is that patients somehow are limited in obtaining their own medical records because of HIPAA.

"Many smaller practices actually use it as a way to prevent patients from accessing their own records for fear of mishandling data in some capacity," he says. "What I always emphasize is that the legislation itself was called the Health Insurance Portability and Accountability Act. The rule actually encourages patients to access their own information and move it between practices, even if providers and healthcare entities are required to protect that information at a higher burden."

Anwar A. Jebran, MD, a third-year internal medicine resident at Weiss Memorial Hospital in Chicago suggests practices use systems that are compatible with interoperability standards such as HL7 FHIR, an interface for exchanging electronic health records, which would eliminate much of the manual workload associated with accessing records.

"For practices without that, having a system to handle these requests with posted timelines works well," he says. "Corroborating information with the patient before adding it to their health records is also a good practice of verbally sharing the patient's health records and then giving them the option of either receiving a copy or managing their own documents."

The HIPAA Privacy Rule permits a covered entity to charge a reasonable, cost-based fee that covers certain limited labor, supply, and postage costs that may apply in providing an individual with a copy of medical records in the form and format requested or agreed to by the individual.

However, the laws for copying medical records vary from state to state in terms of fees. For instance, in Florida, searches for medical records are $1 per search per year, $1 per printed page, and $2 for microfilm. But it gets more complicated when you cross state lines.

The law is very clear. People have a right to their data, Jebran says.

To read the unabridged version, visit www.medicaleconomics.com.

Assessing SPG Block Use

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Although used in the treatment of headache disorders for decades, studies assessing the use of sphenopalatine ganglion (SPG) blocks are limited in number and breadth. Specifically, data are lacking that compare the efficacy of available catheters (SphenoCath [Dolor Technologies LLC], Allevio [Jet Medical], Tx360 [Tian Medical LLC]) targeting the SPG in patients with headache, assess which headache disorders these catheters should target, or propose frequency of use. To assess SPG block device use for the treatment of primary headache disorders among headache specialists, Jessica Ailani, MD, and colleagues conducted a survey of American Headache Society members and published their results in *Neurology Clinical Practice*.

"Survey questions covered what devices (if any) were used, what types of headaches were treated, what anesthetic and volume was used, and how helpful the survey participants found the procedure in treating patients' headache disorders," explains Dr. Ailani. Among participants, 56.3% had performed SPG blocks on 50 or fewer patients.

The most commonly used methods of SPG block application were the SphenoCath (42.4%) and Tx360 (41.8%), with respondents citing ease of use as the top reason for preferring these applicator types. The most commonly treated headache disorder with SPG blocks was chronic migraine, which was also rated as the most likely type to respond to this treatment. "SPG blocks were often used as needed for treatment of headache," adds Dr. Ailani. "Those who were experienced in performing SPG blocks appeared to find them more successful when used as stand-alone, as-needed treatments and tended to report that acute relief was not predictive of enduring response."

Although the study suggests that SPG blocks may be effective when use as needed for chronic migraine, according to Dr. Ailani, evidence-based protocols are lacking, leading clinicians to not utilize this treatment approach more frequently. "More research is needed to understand, for example, if SPG blocks are more effective when performed more frequently for a specific period of time or when done monthly, or if SPG blocks are better for treating acute headache versus as a preventative with frequent dosing.