



*" Before the noddle, we'd use whiteboards, letterboards, or try and read lips. It was so frustrating for patients and our nursing staff. We save so much time with the noddle because it's a more direct way to communicate"*

*– Matthew Howard, MD,  
Chair & DEO of  
Neurosurgery, University  
of Iowa Hospitals & Clinics*

HARNESSING INNOVATION TO IMPROVE PATIENT-PROVIDER COMMUNICATION

IN THIS ISSUE

## It Begins with a Voice

by Voxello

**Voxello sat down with Dr. Matthew Howard, Chair and DEO, Department of Neurosurgery John C. VanGilder Chair in Neurosurgery, to discuss the clinical and operational impact the noddle® is having on patients and caregivers at the 811-bed, Level One Trauma center:**

**Question: Dr. Howard, can you describe how your team's use of the noddle® has met an unaddressed need?**

Sure, here at the University of Iowa we have a very large, busy clinical service. It's one of the busier neurosurgical units in the United States and many of our patients are severely injured and are unable to communicate with the nursing staff and with their doctors or family members. These types of brain injuries are devastating, and the inability to communicate is actually one

of the most frustrating and difficult parts of taking care of these patients. That's the need we have- it's really in patients who can't communicate in normal ways because of their brain injury. We have to find a way to interact with them and understand what they're thinking and what their needs are.

**Ok, so how does the noddle help that?**

The product was the development of decades of research by communication scientists here at the University, some of whom are my colleagues. I personally didn't have anything to do with the research, but I've been a real fan watching the progress that's been made. They've harnessed these breakthroughs and core concepts of communication with impaired patients. With the noddle, we're able to inculcate or incorporate these concepts and they've made them reliable and easy to use. You know it's not something you could come up with by yourself.



### About UIHC

*On any given day at University of Iowa Hospitals and Clinics more than 13,000 employees, students, and volunteers collaborate to provide safe, quality health care to our patients while also exceeding their expectations with excellent service.*

*UIHC is an 811-bed hospital that annually admits more than 36,000 patients for in-patient hospital care. In addition, in fiscal year 2017, UIHC received nearly 60,000 emergency department visits. UIHC represents more than 200 outpatient clinics and care areas and accommodated just more than 1 million clinic visits at its main campus and community and outreach clinics.*



**How does the clinical and operational use of the noddle impact staff, looking back on how you used to communicate with these vulnerable patients?**

These are very special patients. These are people who have sustained the kinds of injuries that would be the worst thing they've ever had in their lives, and our caregivers are empathetic and trying to help the patient. You kind of take it for granted, like if you have an orthopedic injury you can just talk to the patient and say something to the effect of "What hurts? Where's your pain?" Patients who have severe brain injuries have those same needs to communicate these issues. They may be uncomfortable in a certain position, they may need some liquid because their lips are too dry, that type of thing. It's so great for morale, both for the patient and the caregivers, to know that you're connecting with this patient.

**So, I imagine it makes it a lot simpler for everyone involved?**

Much simpler, and even in a big, busy unit like this where we have almost 80 patients who are on the neurosurgery service, and even in our very busy unit, the number of patients who really need this kind of technology is comparatively small and so it's difficult for the staff to be able to tackle this problem in a one-off way. You need something that's systemic, something that's easy to use, so that no matter who the staff is for one of these unfortunate patients, it's going to work and you're going to be able to establish a channel of communication.

**Based on that, would you say this is a simple tool that pretty much anyone can pick up and teach a patient to use?**

It's been refined over many years so that usability for the team was a high priority. They kept going through these different renditions so now a normally trained staff nurse is going to be able to use this without any difficulty.

**So, I imagine that this is a big relief for the patient's families as well?**

Yes. It's the most important thing because again, these events are typically very sudden and you've gone from having a perfectly normal life and then a few hours later you've got a patient in this horrible situation. You want to communicate with your loved one and be able to understand and know that the caregivers are able to communicate with your loved ones, so you know their needs will be met.

**Do you see an impact when using the noddle to interact with these patients as a physician who is a part of their care team?**

It does benefit me, but the truth is that the way the patients with this level of injury are taken care of, the vast number of hours that's put into patient care is by the nursing staff. I'll go between operations and check on a patient and make sure I understand what's going on and have a sense of the overall picture, but it's really those hours and hours of interactions with the nurses where this is particularly valuable.

**Do you find that there's value in efficiency gains with the noddle?**

Most certainly, and the factor that I think is influenced by this is nursing time on tasks. At times you have nurses taking care of multiple patients-anyone who's been in the hospital sees that. We have to be efficient with care, and if you can communicate with the patient that's critical to efficiency. So when they're able to communicate they can establish what's going on with the patient, take care of that patient, then go help some other patient in an efficient manner.

**Can you imagine this system being used widely across the U.S. or across the world with this type of patient population?**

These needs are fundamental to any Hospital. Any Hospital taking care of

high acuity, sick patients -they're going to want this system.

**Do you feel the noddle assists in mitigating the risk of adverse events?**

I think so in the sense of detecting them early. When we think about our inpatient service, these patients in the hospital, the workflow on an upcoming complication is something like where a patient tells a nurse "I'm a little bit of short of breath," or "I feel itchy all over." or something like that. They'll tell the nurse, the nurse pages the doctor, the doctor comes and examines a patient and might detect a heart attack early on, a pulmonary embolus early on, or a drug reaction. All that has to be triggered by communication from the patient.

**In the U.S., it's estimated that at any given time, 33% of cognitively intact patients in the ICU and 9% patients on other units are unable to operate a standard nurse call device to summon and communicate with a caregiver.**

*"The noddle helps us provide a higher standard of care. It decreases frustration for the patient, the nursing staff, and their families. Our patients also feel more confident that they are participants in their own care."*

**- Matthew Howard, MD, Chair and DEO of Neurosurgery, University of Iowa Hospitals and Clinics**

## The Need for the noddle® in US Healthcare

Many US hospital and health systems are looking to substantially improve patient-provider communication and thereby address and mitigate the risk of adverse events associated with patients that cannot effectively communicate with a caregiver. Bartlett et al. (2008) reported that ICU patients with physical communication problems were three (3) times more likely to experience one or more adverse medical events than patients who had no communication problems. Changes in Medicare reimbursement make healthcare providers responsible for the cost of treating and addressing these medical errors. Therefore, reducing medical errors has become many hospitals' highest priority. David et al. (2013) have estimated that cost of treatment for medical errors was \$1B (one billion dollars).

Additionally, The *Joint Commission (JC)* has deemed effective communication, cultural competence, and patient-and family-centered care vital components of safe, quality care (Joint Commission on Accreditation of Healthcare Organizations, 2010; see also Blackstone et al. 2011a & 2011b). The *JC* identified strategies that hospitals

should undertake as they address the extensive range of their patients' communication needs (*JC*, 2010a). The *JC*'s recommendations are supported by a range of studies that indicated a relationship between patient-provider communication and health outcomes (Bartlett et al, 2008; Divi et al, 2007; Downey & Hurtig, 2006; Hurtig and Downey, 2009; Costello, 2000; Patak et al., 2004; Dowden, Honsinger, & Beukelman, 1986). These studies identified and highlighted the language-communication barriers that inhibit or impede patients': access to healthcare; participation in treatment planning; participation in critical decision-making involving life or death or quality of life issues; communication with medical providers regarding new or changing symptoms; and the ability to express dissatisfaction with their care. Thus, when healthcare providers fail to address communication barriers, patients are at risk for significant adverse effects (*JC Sentinel Events*, 2011).

### Conclusion:

The pioneering noddle® technology provides non-verbal and non-mobile patients a voice in their care. Allowing these patients to be active participants in their care, empowers the patient and caregiver to make better decisions based on better information that leads to better outcomes.

The noddle® gives patients their dignity back while providing caregivers levels of efficiency that were previously unattainable with antiquated communication processes with these non-verbal patients. Time is given back to the nurse; critical information is unlocked from the patient to provide better care and significant reduction in preventable adverse events with these most vulnerable patients is attained.

For more information  
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Or to call for more  
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