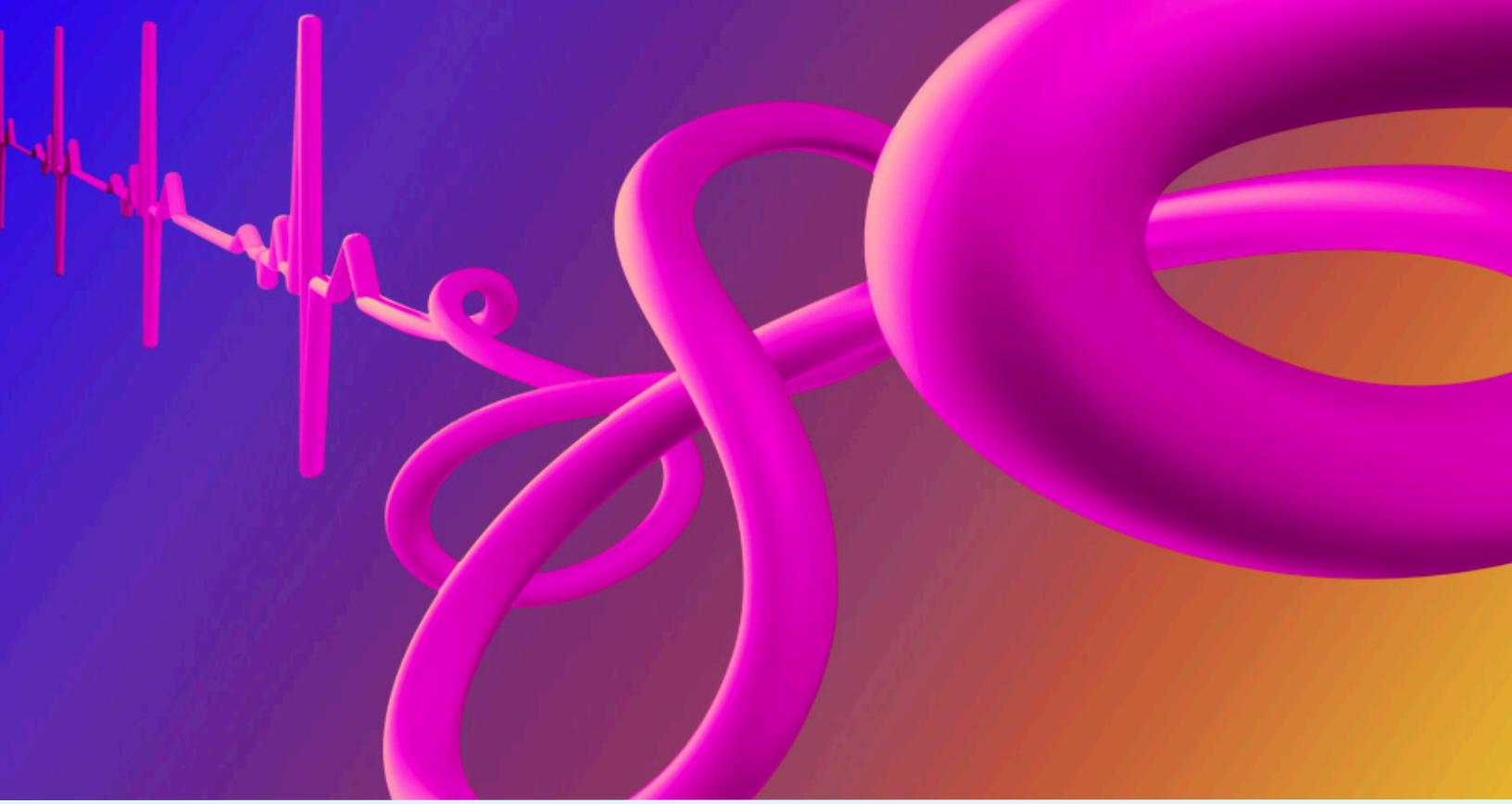
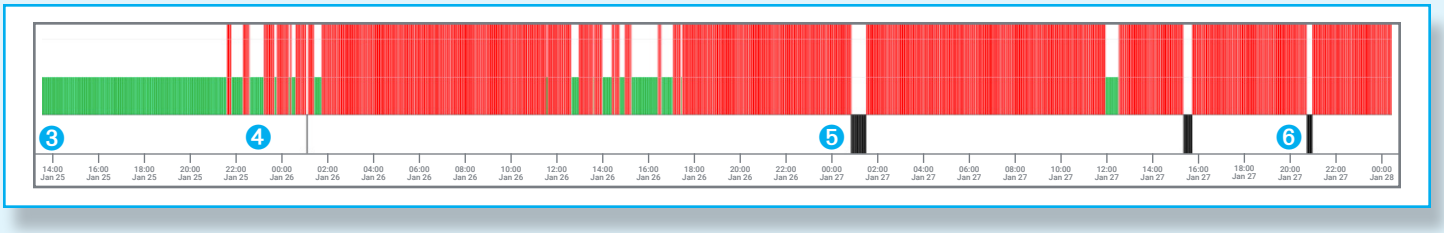


Case Study: ICU Readmission



Patients who require readmission to an ICU within 48 hours of transfer have been shown to have longer length of stays, increased mortality, and higher overall cost to the healthcare system.[1]

Clinical Story

1. Patient arrived in ED with complaints of dyspnea and fever.
2. Treated with IV fluids, antibiotics, intubated, and placed on mechanical ventilation for respiratory support.
3. Day 4: 14:00 Patient admitted to ICU and data for retrospective AHI review begins 4 days post admission.
4. Day 4: 23:00 Patient was weaned from the ventilator, and later extubated. Retrospective review shows that AHI Unstable outputs were seen post extubation.
5. Day 5: 00:00 Patient was transferred to Step-Down on a nasal cannula. Retrospective review shows continued AHI Unstable outputs at the time of the decision to downgrade the level of care.
6. Day 5: 20:00 Rapid response was called for respiratory failure.
7. Patient bounced back to ICU, re-intubated, and mechanically ventilated.

Patient
Age: 60
Sex: Male
Hospital: Michigan Medicine
Reason for admission:
Sepsis secondary to aspiration pneumonia
Length of stay: 50 days

Opportunity

Through retrospective review, if AHI outputs had been available and heeded, the patient would not have been transferred to a lower level of care, and therefore would not have required a readmission to the ICU in less than 24 hours. Also, the caregiver would have been more cautious weaning the patient from ventilator support, thereby extending the necessary treatment for the patient, possibly reducing the 50 day length of stay.

1-Coughlin, David G., Monisha A. Kumar, Neha N. Patel, Rebecca L. Hoffman, and Scott E. Kasner. "Preventing early bouncebacks to the neurointensive care unit: a retrospective analysis and quality improvement pilot." Neurocritical care 28, no. 2 (2018): 175-183.

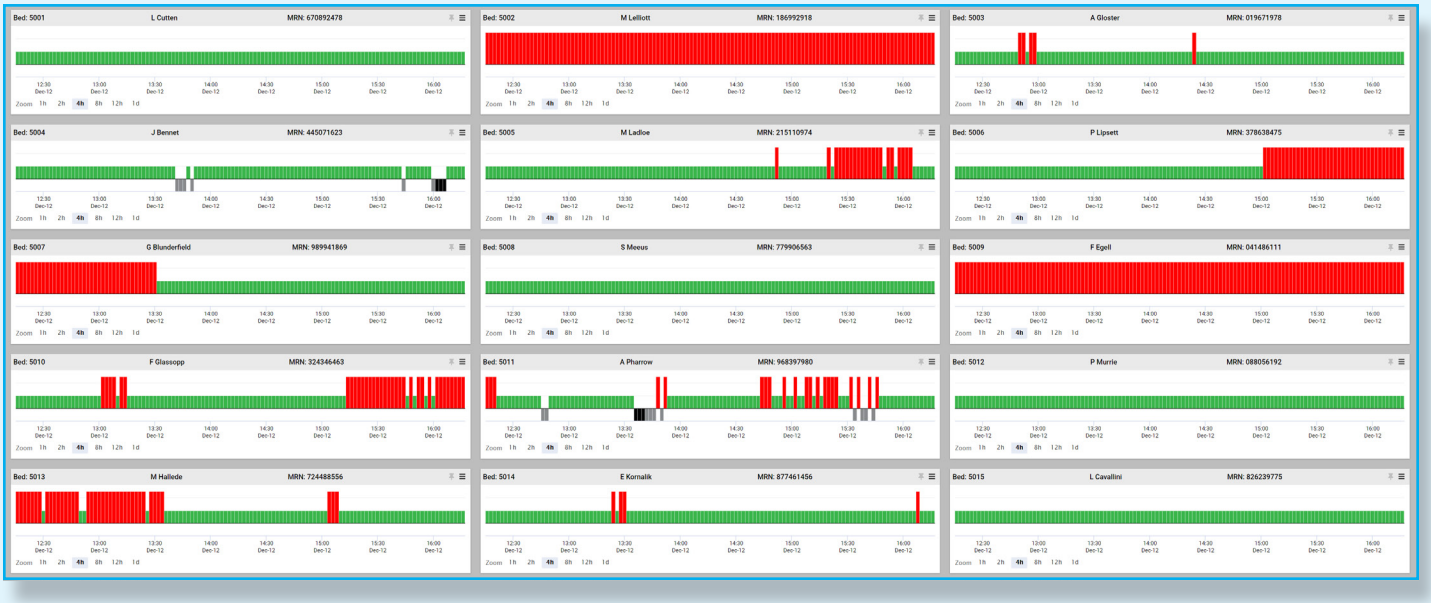
FIFTHeye

FIFTH EYE™ AHI is the FDA De Novo granted Analytic for Hemodynamic Instability, easily implemented with existing non-invasive ECG monitors. AHI provides updated colored bars every two minutes, revealing signs of hemodynamic stability (green) or instability (red).

AHI was developed in collaboration with clinicians at the University of Michigan. AHI uses real-time computing based on pattern analysis of a Lead-II ECG waveform to give clinicians updated information within their existing workflow, without requiring manual data input, score calculations, or complex integrations. It can identify at-risk patients in any hospital setting that involves continuous ECG monitoring, not just the ICU.

AHI is intended to describe an adult patient's hemodynamic status and indicate if a patient is showing signs of hemodynamic stability or instability. Signs of hemodynamic instability are defined as hypotension (systolic blood pressure <90 mmHg or mean arterial pressure (MAP) <70 mmHg) combined with tachycardia (heart rate ≥ 100 bpm).

STRENGTH IN NUMBERS: In an FDA reviewed clinical study, AHI identified hemodynamic instability with 96% sensitivity and 85% specificity compared to traditional vital signs-based reference standard. The study population consisted of over 28,000 AHI outputs across 222 consecutive eligible hospitalized patients. Diversity in the population, ailments and treatments of the study supports external validity of testing for purposes of generalizing results beyond study site population.



Multi-patient views help prioritize hospitalized adult patients to avoid failure to rescue.

- Prioritization of patients on nurse and physician rounds.
- Efficient shift-change huddle.
- Real-time feedback post-procedure and clinical interventions.
- Nurse empowerment with no nurse burden.
- Patient risk assessment at transfer to higher or lower level of care.
- Resource utilization (beds, clinicians).

Experience the beauty of AHI:

- Non-invasive accessibility. More expedient, less complication. Remote monitoring.
- One lead, multiple reads. Continuous monitoring to give rapid indication.
- Confidence in assessment. 96% Sensitivity. 85% Specificity.
- No additional work for clinicians. Easily integrated into existing ECG monitors and workflow.
- Outside of patient room.
- Less stress caused by the unknown. AHI provides clear/accurate assessment of patient trending.
- Developed in collaboration with Clinicians at Michigan Medicine | University of Michigan Hospital. AHI was born in a hospital and trained by clinicians.

Learn how AHI can help you better manage clinical care.
Email info@fiftheye.com or visit fiftheye.com

FIFTHeye
Beyond Vital Signs™