

## Accipio Ix: How AI Can Help Identify ICH in Head Trauma Patients A MaxQ Employee's Personal Case Study

As the magnitude of the patient care load increases and the cost of preventable errors grows, MaxQ AI's Accipio Ix has proven to be a seamless, powerful, and simple solution assisting the skilled physician team in identifying and prioritizing patients with suspected intracranial hemorrhage (ICH). For one patient, the grandmother of a MaxQ AI employee, this trusted solution could have made a difference in avoiding a preventable error and reducing care delays.

### Introduction

The number of head trauma and stroke cases annually admitted to an Emergency Department (ED)—whether at a small or large facility—are growing in volume. Hospital admissions for ICH have increased by 18% in the past ten years\*. Managing case volume more efficiently and helping provide real-time insightful answers to care providers is where AI fills a much-needed role.

### The Case

An 85-year-old woman, the grandmother of a MaxQ AI employee, was found unconscious and unresponsive by her husband, who heard her fall. Immediately calling 911, the EMS vehicle arrived within 15-minutes. After the initial assessment, she arrived at the local acute care facility where the attending ED physician accessed for a potential brain bleed. A non contrast head CT was performed 45 minutes after arrival and read by a radiologist 60 minutes later. The initial finding? Negative for ICH. Non-responsive after three hours, a second non contrast CT was performed and the scan read 90 minutes later. Unfortunately, *the initial read had missed an ICH, which had now progressed significantly.*

The patient was monitored for two additional hours without any improvement and transferred to a nearby academic hospital. Surgery was scheduled for the following morning but, but with improvement throughout the evening, later canceled. The patient was monitored in the ICU for nine days, followed by three more days of inpatient care. *Finally, after 12 days in the hospital, she was successfully sent home.*

### About MaxQ AI<sup>®</sup>

MaxQ AI is at the forefront of medical diagnostic artificial intelligence (AI). Our mission is to reinvent patient diagnosis through artificial intelligence (AI), improved triaging and diagnostics processes, and reduction of avoidable medical errors and costs. MaxQ AI's solutions are seamlessly integrated and globally deployed through trusted global healthcare OEM partners, cyber-secure with leading 3<sup>rd</sup> party validated certification. At MaxQ AI, we have developed a comprehensive workflow software platform, ACCIPIO (meaning "to learn" in Latin), that uses artificial intelligence to interpret medical images, such as non-contrast head computed tomography (CT) scans and surrounding patient data. Our platform will provide real-time triage, rule out, annotation, quantification, and notification in the acute care setting, where every minute counts. Our AI solutions are well-suited to help acute care physicians, who are under extreme pressure to make quick and accurate decisions while treating a large number of patients, reach faster, more accurate decisions when diagnosing stroke, head trauma, and other life-threatening conditions.

#### The ACCIPIO Platform

##### Accipio Ix™

Provides automatic, rapid, highly accurate identification and prioritization.

##### Accipio Ax™

Provides automatic, rapid, highly accurate slice-level annotation and prioritization.

##### Accipio Dxx™

Automatic, Rapid, Highly accurate triage for suspected ICH presence or High NPV absence.

To learn more, visit [www.maxq.ai](http://www.maxq.ai) or follow us on LinkedIn.

Schedule a demo at  
[maxq.ai/schedule demo/](http://maxq.ai/schedule-demo/)

30% of All  
Head Injuries

ICH accounts for approximately 20%  
of all strokes and presents in up to  
30% of all head injuries.\*

## Why ACCIPIO?

MaxQ AI will support the complete ACCIPIO Clinical Platform with INSIGHT™. It will support the Radiology Department, Emergency Room, Neuroradiology, and the Stroke teams with a fully automated solution. The ACCIPIO platform will provide tools for suspected positive ICH triage and prioritization (Ix), slice-level annotation (Ax), lesion-level annotation (Ax Plus) and quantification (Ax Pro), triage of suspected positive and negative ICH triage (Dxg), and diagnostic rule-out (Dx).

### Accipio Ix

Provides automatic, rapid, highly accurate identification and prioritization of ICH



## The Solution

This case was initially misdiagnosed as negative for ICH, with an additional four-hour delay before a re-scan and re-read correctly identifying a significant ICH. If this case had been concurrently read by Accipio Ix, ACCIPIO could have automatically identified a suspected ICH in seconds, empowering the physician's care-path decisions and potentially avoiding a multi-hour delay.

***With Accipio Ix, treatment decisions could have potentially begun hours earlier.***

The emergency department (ED) is a challenging environment with high numbers of acute trauma, head trauma, and stroke cases. Among adverse events in the ED deemed negligent, most are diagnostic failures, and more than half of closed malpractice claims in emergency medicine are diagnosis-related.\* In this case study, this facility could have benefited from the ACCIPIO comprehensive ICH workflow solution.

**Misdiagnosis, in general, may account for 40,000–80,000 preventable deaths\***

*“We serve multiple hospitals where we may have several CT head cases with other stat exams to read – with no way of knowing what is the most acute without adding more Radiologists – this risk exposure is amplified when a priority stroke case hits the ED. Having an intelligent agent prioritize these cases would increase safety, improve patient care, and inform staffing decisions” – Mark C DeLano, M.D., FACR, Advanced Radiology Services, PC; Michigan State University*

## Conclusion

Accipio Ix could have identified and prioritized the suspected ICH for the reading physician in this all-to-common head trauma situation, potentially saving significant time. Accipio Ix is part of the comprehensive, seamless, and secure ACCIPIO Platform, comprised of Accipio Ix, Accipio Ax, and Accipio Dxg.

COMPREHENSIVE • SEAMLESS • SECURE

## MaxQ AI's Regulatory & Quality Compliance

MaxQ AI is a healthcare technology company developing innovative medical diagnostic artificial intelligence software to augment emergency room physicians in their daily practice. We prioritize absolute rigor in all certifications, systems, security, and compliance to ensure the company behind the platform leads by example.

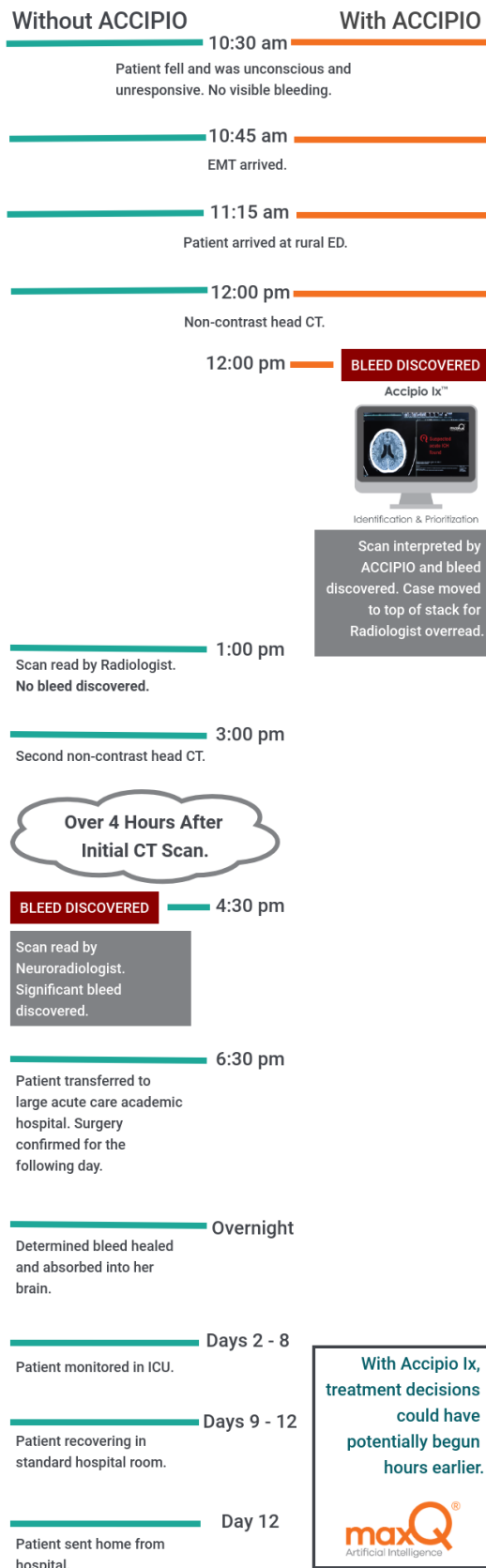
- ISO 27001 Information Management Security System Certification
- Multiple FDA, CE, Australia regulatory approvals
- ISO 13485 certified (medical manufacturing)
- Supports HIPAA compliance (patient privacy)
- FDA Breakthrough Status (awarded to a single company for a single indication)
- FDA Pre-Certification Member (standards –shaping of the future)

To learn more, visit [www.maxq.ai](http://www.maxq.ai) or follow us on LinkedIn.

Schedule a demo at [maxq.ai/schedule-demo/](http://maxq.ai/schedule-demo/)

MaxQ AI Global Headquarters  
96 Yigal Alon Street, Entrance A  
Tel Aviv, Israel 6789140

# What if Accipio Ix was assisting the physician in real time?



Accipio Ix™: FDA 510(k) Cleared, CE Marked, TGA Approved, IMOH Approved  
 Accipio Ax™: CE Marked, TGA Approved; U.S. Investigational Use Only\*, Not Available for Sale in the U.S.  
 Accipio Ax Plus™: Investigational Use Only\*, Not Available for Sale  
 Accipio Ax Pro™: Investigational Use Only\*, Not Available for Sale  
 Accipio Dxg™: FDA 510(k) pending, Not Available for Sale  
 Accipio Dx™: Investigational Use Only\*, Not Available for Sale. \*CAUTION- Investigational Device, Limited by Federal Law to Investigational Use

\*References available upon request: 45, 155, 159  
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