

**Category**

Best Startup

**Product/Solution Name**

BoneView

**Date of Approval**

2020-03-01

**Indications**

BoneView AI is an innovative solution that integrates seamlessly into the workflow of radiologists and emergency department (ED) doctors. It provides an instant and automatic second reading of trauma bone X-rays, offering numerous benefits. With BoneView, medical professionals can save time, experience improved reading comfort, reduce medical errors, and enhance diagnostic accuracy. Additionally, BoneView offers a smart worklist and full workflow integration, allowing clinicians to triage and prioritize interpretations efficiently. This approach enables them to focus on the most critical cases, ensuring patients receive timely and accurate diagnoses.

In summary, BoneView is a fusion of advanced technology and clinical workflow integration to aid in the indication and interpretation of trauma bone X-rays.

**Therapeutic Categories**

BoneView AI prevents the oversight of traumatic lesions on X-ray images, including fractures, effusions, dislocations, and bone lesions. It detects recent and semi-recent fractures in limbs, the rib cage, and the pelvis, providing crucial insights for trauma cases.

It is designed by musculoskeletal experts to identify recent, semi-recent, and non-acute fractures in the thoracic and lumbar spine (revealing signs of osteoporosis in the vertebral endplate). Moreover, BoneView AI can identify lytic and sclerotic bone lesions on X-ray images of limbs and pelvic radiographs. BoneView AI goes beyond mere detection in bone lesions by providing insights into their nature. It can differentiate between benign and undetermined or potentially malignant lesions.

**Attached Files:**

- 2023 Galien Gleamer with BoneView.pdf

**Background information and need for solution/product**

In the era of COVID-19 transitioning to an endemic phase, automation solutions are poised to play a pivotal role in driving recovery within the next-generation diagnostics industry. The demand for radiology services has been steadily increasing as they play a critical role in patient care pathways. However, the global radiology workforce is facing a shortage, hampering efficiency in delivering high-value care.

The current reliance on a more significant number of radiologists to interpret the growing number of imaging exams has led to lower efficiency. Radiologists are under immense pressure to maintain high productivity, often resulting in limited time spent on each patient's case, which can contribute to increased medical errors. Misdiagnoses and other cognitive errors in radiology account for a significant

percentage of overall medical errors, ranging from 15% to 28%. Moreover, the stress and workload adversely affect the well-being of radiologists, increasing the risk of burnout.

Furthermore, in certain countries, scheduling medical examinations such as magnetic resonance imaging (MRI) can cause significant delays in diagnosis and treatment, further exacerbating the challenges faced in radiology.

In light of these issues, artificial intelligence (AI) has emerged as a promising solution in the field of radiology. GLEAMER, in particular, stands out for its unique technology that addresses customer needs, positioning itself as a leader in this domain and capitalizing on new growth opportunities. By leveraging AI, GLEAMER aims to enhance efficiency, accuracy, and overall performance in radiology, ultimately improving patient outcomes and solidifying its position in the industry.

### **History of the development of the solution/product**

The story of GLEAMER begins in 2017 when Christian Allouche, Alexis Ducarouge, and Dr. Nor-Eddine Regnard come together with a shared vision to address the challenges faced in radiology. Driven by their passion and determination, they founded GLEAMER to revolutionize the field and provide innovative solutions to medical professionals.

Dr. Nor-Eddine Regnard, an experienced musculoskeletal radiologist, understood firsthand the complexities and difficulties of diagnosing fractures. All members recognized the need for assistance and believed technology could improve the process. With this conviction, the team set out to develop a solution that would enhance the capabilities of radiologists and streamline the diagnosis of fractures. After extensive research and development, GLEAMER unveiled its prototype in 2020. Despite needing further refinement, it showed great promise and garnered positive feedback from the medical community. The prototype demonstrated the potential of artificial intelligence in assisting radiologists and sparked optimism for the future of the field.

In early 2022, GLEAMER expanded its scope beyond fractures and began addressing other pathologies related to trauma, such as effusion, dislocation, and bone lesions. This expansion broadened the impact of their technology, providing radiologists with additional tools to aid in their diagnoses and treatment planning.

The efforts and dedication of the GLEAMER team did not go unnoticed. In March 2022, their algorithm received FDA approval for adult patients, marking a significant milestone. It was the first AI tool to obtain such consent for fractures in adults and children. This achievement validated the scientific rigor behind GLEAMER's technology and positioned them as pioneers in AI-assisted radiology.

Building on this success, GLEAMER continued to refine and enhance its platform. In March 2023, they achieved another major milestone when their algorithm received FDA approval for use in pediatric patients. This expanded their reach and solidified their reputation as a trusted and reliable solution provider.

With solid scientific evidence supporting their technology and its seamless integration into existing workflows, GLEAMER experienced considerable success, particularly in the United States. Their AI tool became widely adopted by radiologists, enabling them to provide more accurate and efficient diagnoses, ultimately improving patient outcomes.

The story of GLEAMER exemplifies the power of innovation and collaboration in the healthcare industry. By combining their expertise and passion, the founders of GLEAMER embarked on a journey to transform radiology and have succeeded in developing a pioneering AI tool that has revolutionized the field.

**Why this solution/product is innovative, the broad implications for future research, and/or how it will improve the human condition**

The innovation of GLEAMER is bringing significant benefits to patients, radiologists, and healthcare institutions alike.

First and foremost, GLEAMER's technology dramatically improves diagnostic accuracy, ultimately leading to better patient outcomes. By reducing missed fractures by 30%, GLEAMER ensures patients receive appropriate and timely treatment. For instance, detecting a scaphoid fracture that might have been overlooked can prevent long-term complications such as reduced mobility and painful pseudoarthrosis. The ability of GLEAMER to identify and assist in diagnosing these fractures significantly improves patient care and quality of life.

Secondly, GLEAMER alleviates the burden on radiologists, helping them read X-rays faster and providing a sense of companionship. Radiologists face a high risk of burnout, and the profession is experiencing a shortage, particularly in pediatric radiology (only 1% are specialized in this field in the USA). By harnessing the power of AI, GLEAMER enhances radiologists' expertise, enabling them to manage their workload more efficiently and become more proficient in their interpretations. This not only reduces stress but also improves job satisfaction and overall well-being.

Furthermore, GLEAMER's technology helps institutions address staff shortages, mitigate legal claims, and decrease patient stays in the Emergency Department. With the need for more radiologists, GLEAMER fills the gap by providing reliable and accurate assistance, ensuring that institutions can deliver timely and effective patient care. By minimizing missed diagnoses and legal claims, GLEAMER helps healthcare organizations provide a higher standard of care and reduce potential liabilities. Additionally, faster diagnoses contribute to shorter stays in the Emergency Department, optimizing resource utilization and improving patient flow.

In conclusion, GLEAMER's innovation goes beyond its current capabilities. It empowers radiologists with expertise, regardless of specialty, and automates cumbersome tasks, allowing them to focus on more valuable responsibilities such as patient examinations and treatment. As AI continues to advance, it will further revolutionize the field of radiology, augmenting the skills and capabilities of radiologists and driving advancements in patient care. GLEAMER's unique offering positions it at the forefront of this transformative shift, leading the way in the integration of AI in radiology and unlocking new potentials for the future of healthcare.

**Attached Files:**

- GALIEN 23 Customer testimonials VF.pdf
- Galien 2023 BoneView Scientific proof VF.pdf

**Please provide appropriate references (ie Pubmed links)**

Please review the document to assess all links to publication.

Attached Files:

- Clinical evidence BoneView.pdf
- GALIEN 23 Customer testimonials VF.pdf
- guermazi2021improving.pdf