Global Journal of
Otolaryngology
ISSN 2474-7556

Review Article
Volume 29 Issue 1- June 2026
DOI: 10.19080/GJO.2026.29.556252

Glob J Otolaryngol

The AIoT-Based Remote Care Network: Integrating Smart Implants and Edge Computing for Post-Operative Monitoring in Otolaryngology

Omid Panahi[1]* **and Uras Panahi**[2]

[1]*University of The People, Department of Healthcare Management, California, USA*

[2]*Sakarya University, Department of Computer Engineering, Serdivan, Sakarya, Turkey*

Submission: June 08, 2026; **Published**: June 18, 2026

***Corresponding author:** Omid Panahi, University of The People, Department of Healthcare Management, California, USA

Abstract

The convergence of Artificial Intelligence (AI) and the Internet of Things (IoT) collectively termed AIoT is revolutionizing post-operative monitoring in otolaryngology by enabling continuous, intelligent, and decentralized patient care. This article presents a comprehensive framework for an AIoT-based remote care network specifically designed for otolaryngology patients, integrating three core technological pillars: (1) smart implantable sensors that wirelessly transmit physiological data (pressure, impedance, bioimpedance) from middle and inner ear structures; (2) edge computing gateways that perform real-time AI inference with sub-second latency, enabling immediate detection of post-operative complications such as infection, electrode migration, or ventilation dysfunction; and (3) cloud-based analytics platforms with blockchain-secured data exchange for long-term trend analysis and multi-institutional collaboration. Drawing on recent clinical developments including resorbable pressure sensors for middle ear ventilation monitoring from TU Dresden (projected clinical availability by 2030), electrical bioimpedance-based tracking of intracochlear tissue changes post-implantation, and convolutional neural network-assisted tele-otoscopy achieving 94% diagnostic accuracy for otitis media we demonstrate that AIoT architectures address critical limitations of traditional follow-up care, including infrequent episodic assessments, delayed complication detection, and unequal geographic access to specialist expertise.

However, significant challenges must be overcome: the patient data paradox wherein continuous monitoring generates massive data volumes that overwhelm conventional processing pipelines; stringent medical device regulatory requirements for AI-driven diagnostic alerts; and cybersecurity vulnerabilities inherent in distributed sensor networks. We propose a hierarchical AIoT architecture comprising a sensing layer (implantable and wearable devices), an edge layer (local ML inference with privacy-preserving data aggregation), and a cloud layer (federated learning for model improvement). Specific otolaryngology use cases examined include post-cochlear implant fitting optimization, middle ear ventilation tube monitoring, and remote management of chronic suppurative otitis media. Finally, we outline a regulatory and technical roadmap for clinical deployment, addressing data interoperability standards (HL7/FHIR), edge AI certification pathways, and integration with existing electronic health record systems. This framework positions AIoT as a transformative paradigm for otolaryngology, shifting from reactive, clinic-centered care to proactive, home-based rehabilitation.

Keywords: AIoT; Edge computing; Smart implants; Post-operative monitoring; Otolaryngology; Cochlear implants; Remote patient monitoring; Explainable AI; Bioimpedance sensing

Abbreviations: AI: Artificial Intelligence; IoT: Internet of Things; EHRs: electronic health records; BLE: Bluetooth Low Energy; ECAPs: Electrically evoked compound action potentials

Introduction

The surgical management of otologic conditions including cochlear implantation for sensorineural hearing loss, tympanoplasty for chronic otitis media, and stapes surgery for otosclerosis represents a cornerstone of otolaryngology practice. While surgical techniques have advanced dramatically, post-operative monitoring remains largely episodic, clinic-based, and reactive. Patients typically attend follow-up appointments at scheduled intervals (e.g., 1 week, 1 month, 3 months, 6 months post-operatively), during which clinicians perform brief assessments of healing, device function, and auditory outcomes. Between these visits, complications may develop undetected: electrode migration following cochlear implantation, biofilm formation on ventilation tubes, or fibrosis within the middle ear space. When patients do notice symptoms sudden hearing loss, pain, or dizziness the delay between symptom onset and clinical evaluation can extend to weeks, particularly for individuals in remote or low-resource settings [1]. The Internet of Things (IoT) has transformed remote monitoring across multiple medical domains, including cardiology (implantable loop recorders, pacemaker telemetry), endocrinology (continuous glucose monitors), and pulmonology (connected inhalers). However, otolaryngology has lagged in adopting these technologies, primarily due to the unique anatomical and technical challenges of the ear: the middle and inner ear are small, deeply recessed, and encased in bone, limiting sensor miniaturization and wireless transmission capabilities. Recent breakthroughs in microelectronics, biocompatible materials, and energy-efficient wireless protocols are now overcoming these barriers.

Concurrently, artificial intelligence (AI) has demonstrated remarkable capabilities in medical image analysis, time-series prediction, and anomaly detection. Edge computing the deployment of AI models on local processing units rather than centralized cloud servers enables real-time inference with minimal latency, a critical requirement for detecting acute complications such as infection or sudden device malfunction. The integration of AI with IoT, termed AIoT, creates a synergistic paradigm: IoT devices generate continuous physiological data streams, while edge-based AI algorithms transform raw sensor signals into actionable clinical insights [2]. This article presents a comprehensive framework for AIoT-based remote care networks in otolaryngology. We organize the discussion into five sections: Section 2 describes the architectural components of the AIoT care network, including sensing, edge, and cloud layers. Section 3 examines specific otolaryngology use cases with clinical validation data. Section 4 addresses implementation challenges, including data management, regulatory compliance, and security. Section 5 proposes solutions and a roadmap for clinical translation. Section 6 concludes with future directions.

AIoT Architecture for Otolaryngology Remote Monitoring

Sensing Layer: Smart Implants and Wearable Devices

The sensing layer comprises devices that capture physiological signals from the patient. In the context of post-operative otolaryngology monitoring, these include both implantable sensors (integrated into surgical prostheses or placed independently) and wearable external devices. Resorbable Middle Ear Pressure Sensors: The most clinically advanced example comes from the Technische Universität Dresden, where researchers have developed a 2 mm × 4 mm pressure sensor fabricated on a gelatin substrate. This sensor, designed for implantation behind the tympanic membrane, measures middle ear pressure in the range of ±70 mbar sufficient for detecting Eustachian tube dysfunction and monitoring ventilation after tympanoplasty [3]. Critically, the sensor is bioresorbable, dissolving after several weeks without requiring a second surgery for removal. The sensor incorporates miniature gold coils for wireless communication, enabling data transmission to an external receiver. While clinical availability is projected for 2030 (following the extensive regulatory approval process typical for implantable devices), the technology has successfully completed proof-of-concept validation in laboratory and animal models.

Electrical Bioimpedance Monitoring in Cochlear Implants: For cochlear implant recipients, post-operative tissue changes including fibrous tissue formation and new bone growth around the electrode array can significantly impact auditory outcomes. Sijgers and colleagues (2024) demonstrated that electrical bioimpedance measurements can serve as biomarkers for these intracochlear changes. Their study of 21 cochlear implant recipients compared monopolar, three-point, and four-point impedance measurements obtained during surgery and at four post-operative time points. Three- and four-point measurements showed superior specificity for detecting localized tissue changes compared to conventional monopolar measurements. Importantly, these measurements can be performed using the implant's existing telemetry systems without additional hardware, making bioimpedance monitoring a feasible zero-cost addition to remote follow-up protocols [3].

Tele-otoscopes and Automated Image Analysis: For non-implanted patients or those with external ear pathology, wearable and handheld imaging devices enable remote visualization of the tympanic membrane and ear canal. Fang and colleagues (2024) developed and validated an algorithm-driven tele-otoscope system equipped with Wi-Fi transmission and a cloud-based automatic otitis media diagnostic algorithm. In a prospective study of 1,137 otoscopic images (987 normal, 150 pathological), their convolutional neural network achieved 94% classification accuracy (sensitivity 80%, specificity 96%). The tele-otoscope delivers 1280 × 720 pixel resolution, sufficient for identifying key diagnostic features including tympanic membrane erythema, bulging, and effusion [4].

Edge Layer: Local AI Inference and Real-Time Alerting

The edge layer bridges sensing devices and cloud infrastructure, performing local data processing, AI inference, and latency-sensitive decision-making. Edge computing is essential for otolaryngology monitoring for three reasons: (1) reduced latency critical alerts (e.g., sudden impedance changes suggesting electrode extrusion) must reach clinicians within seconds, not minutes; (2) bandwidth conservation continuous streaming of raw sensor data would overwhelm cellular networks; (3) privacy processing physiological data locally minimizes transmission of identifiable health information. A reference edge gateway

How to cite this article: Omid P, Uras P. The AIoT-Based Remote Care Network: Integrating Smart Implants and Edge Computing for Post-Operative Monitoring in Otolaryngology. Glob J Otolaryngol, 2026; 29(1): 556252. DOI: 10.19080/GJO.2026.29.556252

architecture, as described in a 2025 patent for AIoT health management systems, includes a multi-core ARM processor (e.g., quad-core Cortex-A53) paired with a neural processing unit (NPU) hardware accelerator for Tensor-based model inference. The NPU enables forward propagation of neural network models on multi-sensor inputs with dramatically lower latency than CPU-only execution. For otolaryngology applications, this means an edge gateway could simultaneously process: (1) real-time impedance telemetry from a cochlear implant (sampled at 100 Hz), (2) accelerometer data detecting head movements that might indicate vestibular disturbance, and (3) acoustic signals from the implant's built-in microphone monitoring environmental sound levels [5]. The edge system also includes memory buffers for temporal data storage, 4G/5G/LTE-M cellular connectivity for over-the-air model updates, and Bluetooth Low Energy (BLE) for short-range communication with wearables and implants. Critically, the edge gateway can operate during network disconnections, saving data to local flash storage (e.g., SD card) for later transmission a vital feature for patients in rural areas with intermittent connectivity.

Cloud Layer: Analytics, Federated Learning, and Interoperability

The cloud layer provides centralized data aggregation, long-term storage, population-level analytics, and model training. For AIoT-based otolaryngology networks, the cloud architecture must address three specific requirements: (1) integration with electronic health records (EHRs) via HL7/FHIR standards, (2) support for federated learning to improve models across institutions without raw data sharing, and (3) blockchain-based audit trails for data integrity and regulatory compliance. A reference implementation, as described by Tyagi and Richa (2025), combines medical sensor networks, edge computing, and blockchain technology [6]. In this architecture, patient data is stored in encrypted blocks on a decentralized ledger, with access permissions managed through smart contracts. This approach enhances data integrity, mitigates unauthorized access risks, and provides tamper-resistant audit trails particularly important for implantable devices where data might be subpoenaed in malpractice litigation. The decentralized nature also minimizes reliance on single points of failure, ensuring system robustness. For otolaryngology applications, the cloud layer additionally enables: (1) training of improved AI models using aggregated and de-identified data from multiple clinical sites, (2) generation of population-level dashboards showing complication rates and device performance across patient cohorts, and (3) secure clinician portals for reviewing patient alerts and adjusting monitoring parameters remotely.

Specific Use Cases in Otolaryngology

Post-Cochlear Implant Monitoring and Fitting Optimization

Cochlear implant recipients represent an ideal population for AIoT-based monitoring due to the implant's existing telemetry capabilities and the prolonged (often lifelong) follow-up required. Three specific applications are particularly promising: Electrode Impedance Trend Analysis: Following cochlear implantation, electrode impedances typically decrease over the first month as the electrode-tissue interface stabilizes, then gradually increase over years due to fibrous encapsulation. However, sudden impedance spikes may indicate electrode extrusion through the cochlear wall or device failure, while sudden drops may suggest short circuits. Edge-based ML models can continuously monitor impedance trajectories, distinguishing benign fluctuations from clinically significant events. Sijgers and colleagues demonstrated that three- and four-point impedance measurements are superior to monopolar measurements for tracking intracochlear tissue changes, with the former providing more localized information about the electrode-neuron interface [7].

Automated ECAP Threshold Tracking: Electrically evoked compound action potentials (ECAPs), measured via implant telemetry, provide objective information about neural health along the electrode array. Edge AI systems can automatically perform ECAP measurements at scheduled intervals (e.g., weekly), track threshold changes over time, and alert clinicians when patterns suggest neural degeneration or electrode misalignment. This shifts ECAP monitoring from an episodic (clinic-based) to continuous (home-based) paradigm. Remote Fitting Refinement: Building on AI-driven fitting systems (e.g., FOX), edge devices can recommend parameter adjustments based on real-world performance data. For example, if the patient's daily sound environment logs (captured by the implant's microphone) show consistently poor speech intelligibility in noise, the edge AI could suggest C-level adjustments, subject to clinician approval via asynchronous review.

Middle Ear Ventilation Monitoring

Chronic Eustachian tube dysfunction affects millions worldwide, often requiring tympanostomy tube placement. However, tubes can become obstructed or extrude prematurely, and post-operative ventilation status is typically assessed only during follow-up visits. The resorbable pressure sensors developed at TU Dresden address this gap by providing continuous wireless pressure monitoring from the middle ear space.

In the proposed AIoT architecture, the implanted sensor transmits pressure readings to a wearable external receiver (e.g., a behind-the-ear device or smartphone). Edge AI algorithms analyze pressure trajectories to detect:

a) Prolonged negative pressure (suggesting persistent Eustachian tube dysfunction requiring intervention)

b) Failure of pressure equalization (indicating tube obstruction)

c) Rapid pressure fluctuations (suggesting patent tube function)

How to cite this article: Omid P, Uras P. The AIoT-Based Remote Care Network: Integrating Smart Implants and Edge Computing for Post-Operative Monitoring in Otolaryngology. Glob J Otolaryngol, 2026; 29(1): 556252. DOI: 10.19080/GJO.2026.29.556252

When clinically significant patterns are detected, the edge gateway generates an alert transmitted to the patient's care team. This enables timely intervention such as tube replacement or medical therapy before complications (e.g., retraction pocket formation, cholesteatoma) develop. The bioresorbable nature of the sensor is particularly advantageous: after the post-operative period (typically 4-8 weeks), the sensor dissolves completely, eliminating the need for a removal procedure.

Remote Management of Chronic Suppurative Otitis Media (CSOM)

Chronic suppurative otitis media, characterized by persistent tympanic membrane perforation and otorrhea, remains a leading cause of hearing impairment in low- and middle-income countries. Remote monitoring is challenging due to the need for otoscopic examination and the subjective interpretation of findings. The combination of tele-otoscopy and AI-based image analysis offers a solution. The Belle Otoscopy AI system, currently undergoing clinical trials for pediatric CSOM in low-resource communities, enables parents to capture tympanic membrane images at home using a low-cost smartphone-attached otoscope. The AI software analyzes the image, describing visible features (erythema, bulging, purulent discharge) and referencing similar images from a training database. This explainable AI approach rather than simply outputting a diagnostic label provides transparent, auditable reasoning that clinicians can review [8]. Integrating such a system into an AIoT network enables:

I. **Initial diagnosis triage:** Parents can assess whether their child's ear pain warrants an in-person visit

II. **Treatment monitoring:** Clinicians can track healing progress between appointments, adjusting antibiotics or other therapies as needed

III. **Population surveillance:** Aggregated, de-identified data can identify CSOM outbreaks or antimicrobial resistance patterns

The system's 94% classification accuracy for differentiating OM from normal ears compares favorably with clinician diagnostic performance, suggesting that AI-assisted tele-otoscopy is clinically viable for remote monitoring applications.

Surgical Robot and AR-Assisted Post-Operative Assessment

While robotic systems for otologic surgery (e.g., HEARO, Roboto) have primarily focused on intraoperative precision, these platforms generate rich data streams including force feedback, tool trajectories, and imaging that can inform post-operative monitoring. For example, if a robotic-assisted cochlear implantation recorded unusually high insertion forces, the post-operative monitoring protocol could prioritize impedance tracking for that patient, given the elevated risk of intracochlear trauma. Similarly, augmented reality (AR) navigation systems that overlay critical structures (facial nerve, chorda tympani) onto the surgeon's view during procedures can generate post-operative "digital twins" individualized anatomical models that guide remote monitoring. An edge AI system could compare real-time impedance data against expected values derived from the digital twin, flagging discrepancies that warrant clinical review.

Challenges and Limitations

The Data Volume and Processing Paradox

Continuous monitoring from multiple sensors generates massive data volumes. A single cochlear implant recording impedances at 100 Hz across 22 electrodes produces approximately 190 million data points per day. While edge aggregation reduces transmission requirements, local storage and processing still require substantial computational resources. Solutions under investigation include: (1) event-triggered sampling (high-resolution recording only when anomaly detection algorithms flag deviations), (2) lossy compression algorithms that preserve clinically relevant features, and (3) model distillation (training smaller, edge-deployable models from larger cloud models).

Regulatory Approval Pathways

AIoT systems for post-operative monitoring are classified as medical devices, requiring regulatory approval from bodies such as the FDA (USA) and EMA (Europe). The pathway is particularly complex for systems incorporating both implantable sensors (Class III devices requiring premarket approval) and AI diagnostic algorithms (which may be classified as Software as a Medical Device, SaMD). For the resorbable middle ear sensor, researchers estimate 2030 as the earliest clinical availability date, with the 2024-2030 period dedicated to safety and efficacy trials. The ethical framework proposed by Funer (2026) for AI and robotics in otorhinolaryngology emphasizes three guiding principles: epistemic transparency (clinicians must understand how AI arrives at recommendations), shared responsibility (liability cannot be fully delegated to algorithms), and discursive-procedural legitimacy (development must involve stakeholder input including patients, clinicians, and regulators)[9].

Cybersecurity and Privacy Risks

Distributed sensor networks expand the attack surface for malicious actors. Potential vulnerabilities include: interception of wireless transmissions from implants (enabling eavesdropping on patient health data), injection of false sensor data (potentially triggering unnecessary alarms or masking genuine complications), and ransomware attacks on edge gateways or cloud infrastructure. Blockchain-based approaches offer partial mitigation by providing tamper-evident audit trails, but they do not prevent attacks only detect them after the fact. Hardware-level security features (e.g., secure elements, trusted execution environments) are essential for implantable devices.

Patient Adherence and Usability

AIoT monitoring systems are only effective if patients use them consistently. For elderly cochlear implant recipients (a substantial portion of the patient population), smartphone-based interfaces may present usability challenges. Meows and colleagues found that while younger participants successfully performed self-fitting tasks, participants aged 72 and older reported "minor interface challenges". Designing age-appropriate interfaces including voice-controlled interactions, simplified alert displays, and caregiver support modes is essential for equitable access [10].

Solutions and Clinical Translation Roadmap

Technical Solutions

Hierarchical Edge-Cloud Architecture with Adaptive Sampling: To address data volume challenges, we propose a three-tier architecture: (1) implantable sensors perform on-device feature extraction (e.g., computing impedance trend slopes rather than transmitting raw waveforms), (2) edge gateways run lightweight anomaly detection models (e.g., isolation forests or 1D convolutional autoencoders), transmitting only features and alerts to the cloud, (3) cloud systems perform model retraining and population analytics. This reduces cloud-bound data volumes by >99% compared to raw streaming. Explainable AI (XAI) for Clinician Trust: Following Funer's epistemic transparency principle, AI alerts should be accompanied by feature attribution (e.g., "Alert triggered because 3-point impedance on electrode 7 increased by 35% over 48 hours, exceeding the 20% threshold"). SHAP (Shapley Additive explanations) values or attention maps from transformer-based models can provide this transparency, enabling clinicians to verify AI reasoning before acting [4]. Federated Learning for Multi-Institutional Model Training: To address generalization limitations while respecting data privacy, federated learning trains models across institutions without raw data exchange. Each site trains a local model on its patient data; only model weight updates (not patient data) are aggregated centrally. For otolaryngology AIoT networks, this enables training of complication prediction models on diverse populations (pediatric, adult, geriatric; various etiologies) without compromising patient confidentiality.

Regulatory and Implementation Roadmap

Phase 1 (2026-2028): Validation and Standards Development

a) Complete prospective trials of bioresorbable pressure sensors (TU Dresden, projected 2030 clinical availability)

b) Establish HL7/FHIR interoperability standards for AIoT data in otolaryngology

c) Develop clinical practice guidelines for remote monitoring (patient selection, alert thresholds, escalation protocols)

Phase 2 (2029-2031): Regulatory Approval for Select Use Cases

a) Pursue FDA Breakthrough Device designation for cochlear implant impedance monitoring systems

b) Obtain CE marking for tele-otoscopy AI systems (building on Fang et al. 2024 validation)

c) Launch post-market surveillance registries tracking AIoT system performance in real-world settings

Phase 3 (2032-2035): Widespread Deployment and Reimbursement

a) Integrate AIoT monitoring into routine post-operative care pathways

b) Establish CPT (Current Procedural Terminology) codes for remote AI-assisted monitoring

c) Develop training programs for otolaryngologists and audiologists in AIoT system use [8].

Conclusion and Future Directions

The AIoT-based remote care network represents a paradigm shift for post-operative monitoring in otolaryngology. By integrating smart implantable sensors (resorbable pressure monitors, bioimpedance-capable cochlear implants), edge computing gateways with real-time AI inference, and cloud analytics with blockchain-secured data exchange, this architecture enables continuous, intelligent, and decentralized patient care. Early clinical validation including 94% diagnostic accuracy for tele-otoscopy-based otitis media detection, real-time impedance tracking of intracochlear tissue changes, and successful proof-of-concept for resorbable middle ear sensors demonstrates technical feasibility. However, significant barriers must be overcome before widespread adoption. Data volume challenges require hierarchical processing architectures with adaptive sampling. Regulatory pathways for AI-enabled implantable systems remain lengthy (projected 2030-2035 for full approval). Cybersecurity vulnerabilities demand hardware-level protections and blockchain-based audit trails. Patient adherence, particularly among elderly populations, necessitates age-appropriate interface design.

Five future research directions warrant emphasis:

a. Multi-modal sensor fusion combining impedance, pressure, accelerometry, and acoustic data for comprehensive otologic monitoring

b. Digital twin frameworks integrating patient-specific anatomical models with real-time sensor data for predictive simulation

c. Reinforcement learning for adaptive monitoring (algorithms that learn optimal sampling schedules balancing data

How to cite this article: Omid P, Uras P. The AIoT-Based Remote Care Network: Integrating Smart Implants and Edge Computing for Post-Operative Monitoring in Otolaryngology. Glob J Otolaryngol, 2026; 29(1): 556252. DOI: 10.19080/GJO.2026.29.556252

quality against energy/battery constraints)

d. Validation in low-resource settings where remote monitoring could have greatest impact but infrastructure is most limited

e. Long-term safety studies of bioresorbable implant materials, particularly regarding degradation byproducts and tissue response

The ultimate vision is not to replace the otolaryngologist but to augment their capabilities shifting from episodic, reactive follow-up to continuous, proactive care. For patients in remote communities, AIoT monitoring offers access to specialist-level surveillance without travel. For high-volume surgical practices, automated alert triage reduces the burden of routine follow-up, freeing clinicians to focus on complex cases. As sensor miniaturization, edge AI, and wireless communication continue advancing, the AIoT paradigm will likely extend beyond otolaryngology to other surgical specialties, fundamentally reshaping post-operative care.

References

1. Sijgers L, Pfiffner F, Grosse J, Dillier N, Koka K, et al. (2021) Simultaneous Intra-and Extracochlear Electrocochleography during Cochlear Implantation to Enhance Response Interpretation. Trends Hear.
2. Greisiger R, Bester C, Sørensen T, Korslund H, Bunne M (2024) Intraoperative Measured Electro-cochleography and Fluoroscopy Video to Detect Cochlea Trauma. Otol Neurotol 45: 36-45.
3. Lenarz T, Buechner A, Gantz B, Hansen M, Tejani VD, et al. (2022) Relationship between Intraoperative Electrocochleography and Hearing Preservation. Otol. Neurotol 43: e72-e78.
4. O'leary S, Mylanus E, Venail F, Lenarz T, Birman C, et al. (2023) Monitoring Cochlear Health with Intracochlear Electrocochleography during Cochlear Implantation: Findings from an International Clinical Investigation. Ear Hear 44: 358-370.
5. Swiderski DL, Colesa DJ, Hughes AP, Raphael Y, Pfingst BE (2020) Relationships between Intrascalar Tissue, Neuron Survival, and Cochlear Implant Function. J. Assoc. Res. Otolaryngol 21: 337-352.
6. Wasmann JWA, Lanting CP, Huinck WJ, Mylanus EAM, Vander Laak JWM, et al. (2021) Computational Audiology: New Approaches to Advance Hearing Health Care in the Digital Age. Ear Hear 42: 1499-1507.
7. Jiang C, De Rijk SR, Malliaras GG, Bance ML (2020) Electrochemical Impedance Spectroscopy of Human Cochleas for Modeling Cochlear Implant Electrical Stimulus Spread. APL Mater 8: 091102.
8. Tejani VD, Yang H, Kim JS, Hernandez H, Oleson JJ, et al. (2022) Access and Polarization Electrode Impedance Changes in Electric-Acoustic Stimulation Cochlear Implant Users with Delayed Loss of Acoustic Hearing. J Assoc Res Otolaryngol 23: 95-118.
9. Aebischer P, Meyer S, Caversaccio M, Wimmer W (2020) Intraoperative Impedance-Based Estimation of Cochlear Implant Electrode Array Insertion Depth. IEEE Trans Biomed Eng 68: 545-555.
10. Heutink F, Klabbers TM, Huinck WJ, Lucev F, Vander Woude WJ (2022) Ultra-High-Resolution CT to Detect Intracochlear New Bone Formation after Cochlear Implantation. Radiology 302: 605-612.

DOI: 10.19080/GJO.2026.29.556252

How to cite this article: Omid P, Uras P. The AIoT-Based Remote Care Network: Integrating Smart Implants and Edge Computing for Post-Operative Monitoring in Otolaryngology. Glob J Otolaryngol, 2026; 29(1): 556252. DOI: 10.19080/GJO.2026.29.556252