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Review Article

Artificial Intelligence in Otolaryngology—Head and Neck Surgery: Benefits, Risks, and Future Directions for Clinicians and Patients

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Abstract

Artificial intelligence (AI) is rapidly transforming the practice of otolaryngology—head and neck surgery. From AI-powered language models (AILM) capable of answering clinical questions and providing patient education, to machine learning algorithms that interpret audiograms, endoscopic images, and radiographic studies, AI tools are being integrated into every subspecialty of otolaryngology. This article provides a comprehensive review of AI's role specifically within the field, examining demonstrated benefits for clinicians and patients, significant risks and ethical challenges, and the emerging future directions shaping how otolaryngologists will practice in the coming decades. Drawing upon the current literature in general otolaryngology, head and neck surgery, laryngology, rhinology, otology, sleep medicine, and facial plastic surgery, this review emphasizes the importance of responsible, human-centered AI deployment guided by the foundational principles of medical ethics.

Introduction

The integration of artificial intelligence into otolaryngology—head and neck surgery represents one of the most consequential technological developments in the specialty's history. AI, broadly understood as the use of complex iterative algorithms to perform tasks requiring human intelligence, has expanded rapidly from theoretical concept to practical tool in clinical otolaryngology settings worldwide. The launch of Chatbot Generative Pre-trained Transformer (ChatGPT) by OpenAI in November 2022 catalyzed a surge of interest in AI among otolaryngologists, patients, and researchers alike. Indeed, 2023 was identified as the year with the highest number of publications dedicated to AI in otolaryngology and head and neck surgery indexed on PubMed—a trajectory that shows no signs of slowing [1].

Today, AI in otolaryngology encompasses a broad spectrum of technologies: machine learning (ML) algorithms that learn from clinical data to build predictive models; deep learning systems based on artificial neural networks capable of processing medical images and videos; and AI-powered language models (AILM) such as ChatGPT, LLaMA (MetaAI), Google BERT, and Google Gemini that can generate human-like text responses to clinical queries. These tools are increasingly being applied to patient education, resident training, clinical decision support, surgical planning, diagnostics,

and research across all subspecialties of otolaryngology [1].

The American Academy of Otolaryngology—Head and Neck Surgery (AAO-HNS) acknowledged in its November 2025 position statement the transformative potential of AI to advance patient care, research, education, and operational efficiency in the field. At the same time, the Academy explicitly acknowledged the significant risks of bias, privacy breaches, security vulnerabilities, overreliance, inequity, and lack of transparency that accompany these technologies [2]. This review examines both dimensions in detail, organized by subspecialty and clinical context, and outlines a responsible path forward for the otolaryngologist entering an AI-augmented era of practice.

How Generative AI Works in an Otolaryngology Context

Understanding the mechanics of AI is essential for clinicians seeking to use these tools judiciously. Generative AI models—the most widely studied in otolaryngology—are based on natural language processing (NLP), machine learning, and deep learning. They are built on neural networks (mathematical models that mimic the functioning of human neurons), which are trained on massive corpora of text data comprising up to 175 billion parameters. Through this training, AILM learn to recognize patterns, understand complex contextual relationships, and generate coherent, contextually relevant text outputs [1].

Critically, the performance of these models is governed by hyperparameters—settings controlling learning rate, batch size, number of layers, and activation functions—that influence accuracy, speed, and coherence of responses. All AILM share important limitations: hallucination of facts (generating plausible but false information), lack of common-sense knowledge, a restricted context window (the amount of information the model can consider at once), and potential privacy concerns [1]. Human feedback can correct these limitations over time, and successive model versions (e.g., ChatGPT-3.5 vs. ChatGPT-4) reflect measurable performance improvements, though neither has yet achieved the reliability required for autonomous clinical decision-making.

Benefits of AI for Otolaryngology Clinicians

Clinical Decision Support and Vignette Management

One of the most actively studied applications of AILM in otolaryngology is their use as decision support tools in managing clinical cases. Qu and colleagues evaluated ChatGPT-4 on 20 clinical vignettes in general otolaryngology, finding high and significant agreement between ChatGPT-4 and attending physicians in the propositions of differential diagnoses and treatment plans [1]. In head and neck oncology, a multicenter European study assessed ChatGPT-3.5 accuracy against National Comprehensive Cancer Network (NCCN) guidelines across 727 head and neck cancer clinical vignettes, demonstrating sensitivity of 100% and accuracy of 85.3% for recommending primary treatments, with similarly high performance for adjuvant therapies and follow-up indications [1].

In laryngology, ChatGPT-4 showed high accuracy in proposing primary diagnoses (65%) and the most appropriate treatment (60–79%), though its accuracy for recommending specific additional examinations was lower (10–33%). Notably, across multiple subspecialties, ChatGPT tends to propose a higher number of additional examinations than practitioners—a consistent finding that underscores the need for physician oversight rather than uncritical acceptance of AI recommendations [1]. In rhinology, ChatGPT-4 demonstrated particularly high accuracy for primary and differential diagnosis propositions (63.3%) in 40 rhinologic and allergic cases, though performance on indicating specific additional examinations (15.8%) and treatments (16.7%) was considerably more modest [1].

Resident Education and Board Examination Preparation

AILM have shown meaningful utility as educational tools for otolaryngology trainees. Hoch and colleagues evaluated ChatGPT-3.5 on 2,576 board certification preparation questions for German otolaryngology candidates, reporting an overall accuracy rate of 57%, with particularly strong performance in allergology (72%) [1]. Mahajan and colleagues found that ChatGPT-3.5 correctly answered 53% of practice examination questions in otolaryngology head and neck surgery in-service exams [1]. Perhaps most encouragingly, Long and colleagues showed that ChatGPT-4 scored 69.1% on 21 common otolaryngology licensing examination questions—below the 70% passing threshold—but improved to 75% accuracy after being provided further specialty-specific prompts, demonstrating that iterative human feedback substantially improves performance [1].

These findings suggest that AILM are not yet ready to replace standard educational resources but may serve as useful supplements for self-directed learning, particularly when trainees engage with them in an iterative, critical manner. Zalzal and colleagues demonstrated that when the same questions were resubmitted to ChatGPT-3.5, total accurate responses improved from 56.7% to 73.3%, further supporting the value of feedback-driven use [1].

Scientific Research and Manuscript Support

Beyond the clinic, AI is finding a role in the research enterprise within otolaryngology. ChatGPT has been investigated for its ability to assist in proofreading manuscripts submitted to otolaryngology journals, and separate studies have examined its capacity for providing scientific references—an area where caution is warranted given the model's tendency to generate plausible-sounding but fabricated citations [1]. In the dysphagia field, ChatGPT-3.5 was used to generate research ideas, which swallowing experts rated highly for feasibility (mean 4.03/5) and clinical relevance (3.84/5), though its novelty scores were lower (3.08/5), suggesting its current utility lies more in synthesizing existing knowledge than generating genuinely new hypotheses [1].

The broader research landscape has also seen the emergence of AI-authored science. The Open Conference of AI Agents for Science (Agents4Science), held virtually in 2025, explored whether AI could

independently generate scientific hypotheses and methodologies, with research papers both written and peer-reviewed by AI agents. While raising important questions about the nature of scientific authorship, this development points toward a future where AI dramatically accelerates the pace of discovery in otolaryngology and related fields [3].

Surgical Planning and Image Analysis

Machine learning and deep learning algorithms are being applied to otolaryngology imaging with increasing sophistication. Deep learning tools have been developed for automated image segmentation of middle ear structures, AI-assisted measurement of vestibular schwannomas, and algorithm-driven tele-otoscopy for remote evaluation of otitis media. In head and neck oncology, ChatGPT-4 was able to interpret confocal laser endomicroscopy images of oropharyngeal tissues, achieving 71.2% accuracy in distinguishing normal from cancerous tissue—compared to 88.5% for expert human reviewers—suggesting meaningful but not yet equivalent diagnostic performance [1].

Preoperative AI tools can analyze three-dimensional anatomical reconstructions to assist surgical planning for complex head and neck procedures, while AI-enhanced robotic surgery platforms support intraoperative guidance and instrument tracking. These capabilities hold particular promise for reducing operative complications and supporting less experienced surgeons through objective performance feedback.

Benefits of AI for Otolaryngology Patients

Patient Education and Information Access

Patients today routinely consult the internet for information about their symptoms and treatment options before and after otolaryngology appointments. AILM are increasingly being used in this context, and their accuracy for patient-oriented information in otolaryngology has been extensively evaluated. In a study examining ChatGPT-3.5 responses to questions about surgical procedures including adenotonsillectomy, tympanoplasty, endoscopic sinus surgery, parotidectomy, and total laryngectomy, no major errors were identified in responses about indications, alternatives, risks, and recovery—though the chatbot showed difficulty providing precision on surgical steps and key risks [1].

In rhinoplasty, ChatGPT-3.5 outperformed an experienced surgeon in patient education assessments, earning significantly higher ratings from facial and plastic surgery experts for accuracy, completeness, and overall quality in 75% of performance areas [1]. For thyroid nodule information, ChatGPT-3 demonstrated moderate-to-high accuracy (69.2%), with 87.5% of references judged as legitimate citations—an important finding given that many patients consult AI for guidance on concerning thyroid findings [1]. In sleep medicine, ChatGPT-3.5 provided accurate responses in 71.9% of obstructive sleep apnea patient education questions [1].

These findings suggest that AILM can serve as valuable supplementary sources of patient education in otolaryngology, potentially reducing the burden on clinic staff to answer routine questions and empowering patients to engage more meaningfully with their care team. However, one study of oropharyngeal cancer patient information found that ChatGPT-3.5 responses read at a more difficult grade level than is recommended for patient educational materials and could in some cases misinform patients—underscoring the need for physician verification of AI-generated patient content [1].

Patient-Centered Communication and Shared Decision-Making

AILM have shown promise in facilitating preoperative counseling for head and neck cancer surgery. Lee and colleagues reported that ChatGPT-generated pre-surgical information for common head and neck surgeries was comparable to publicly available websites in readability, content accuracy, thoroughness, and number of medical errors [1]. In salivary gland disorders, ChatGPT-3.5 was found to be comprehensive and accurate in clinical management information, with expert agreement scores comparable to those of sialendoscopy specialists in approximately half of clinical scenarios [1].

An international survey of 1,545 patients consulting otolaryngology departments across Europe and the United States found that overall perception of AI in otolaryngological care was moderate to high, with a mean overall agreement score of 7.1 out of 10 for the use of AI in medicine and surgery [4]. Patients who used technology daily showed significantly higher agreement (7.2 ± 1.9) than those who did not (5.6 ± 2.6; p=0.001). The majority of patients—regardless of education level—agreed on the use of AI as an adjunctive tool for diagnosis, with particularly high agreement (80%+) for the use of AI in imaging and radiology [4].

Access and Equity in Otolaryngologic Care

AI tools have the potential to extend high-quality otolaryngology care to underserved and geographically isolated populations. Algorithm-driven tele-otoscopy platforms can enable remote evaluation of middle ear pathology by non-specialist providers, guided by AI diagnostic algorithms, in settings where access to otolaryngologists is limited. Automated audiometry interpretation can expand hearing screening capacity in low-resource environments. Voice analysis tools using AI may enable screening for laryngeal pathology or neurological conditions—including Parkinson's disease and bipolar disorder—using nothing more than a smartphone [4].

Risks and Challenges of AI in Otolaryngology

Hallucinations and Accuracy Limitations

The most immediate patient safety risk posed by AILM in otolaryngology is that of hallucination—the generation of plausible but factually incorrect information. Multiple otolaryngology studies have documented this phenomenon. Nielsen and colleagues reported a mean accuracy score of only 3.41 out of 5 for ChatGPT-4 information on common conditions including otitis, hearing impairment, vertigo, epistaxis, rhinosinusitis, pharyngitis, and

dysphonia [1]. One study found that ChatGPT-3.5 could outright misinform oropharyngeal cancer patients, and that accuracy for diagnosis-related information was particularly poor [1].

In head and neck oncology multidisciplinary board management, ChatGPT-4 correctly proposed treatments in 65% of cases—a performance level that, while impressive in isolation, falls well short of what is required for independent clinical deployment [1]. Similarly, UpToDate was found to be more useful and reliable than ChatGPT-3.5 when both were compared on 25 clinical cases in otolaryngology, partly because UpToDate supported information with subheadings, tables, figures, and algorithms from primary scientific literature [1]. These findings reinforce that AILM should currently be positioned as supplementary tools requiring physician verification, not standalone clinical authorities.

The 'Black Box' Problem and Transparency in ENT Decision-Making

Many high-performing AI systems used in otolaryngology—particularly those relying on deep learning for image interpretation—operate through mechanisms that are not readily interpretable by the clinician. This opacity raises critical questions about informed consent: how can an otolaryngologist meaningfully explain to a patient that a head and neck cancer diagnosis was influenced by an algorithm if neither party can fully understand how the algorithm arrived at that conclusion? The 'black box' problem is particularly acute in high-stakes contexts such as cancer detection, where incorrect AI predictions could lead to delayed treatment or unnecessary intervention [2].

Arambula and Bur, writing in 2020, framed this issue within the ethical principle of respect for autonomy: AI algorithms depend on objective evidence for their creation, which could theoretically threaten provider autonomy and bias clinicians toward findings or therapies they did not initially consider—even if they ultimately choose not to follow the algorithmic recommendation [5]. The AAO-HNS has responded by emphasizing the need for explainable and equitable AI, calling for development and deployment that adheres to principles of safety, accountability, fairness, and transparency [2].

Algorithmic Bias and Health Equity in Otolaryngology

Otolaryngology serves a diverse patient population spanning all ages, ethnic backgrounds, and socioeconomic circumstances. AI algorithms trained on data that underrepresents minority populations, patients with limited health care access, or those from non-English-speaking communities may perform poorly for exactly these groups. As Arambula and Bur noted, clinical data underlying AI algorithms stems primarily from patients who already have access to health care, raising the concern that AI algorithms may be inherently unjust because they reflect existing societal disparities [5].

The patient perception survey by Mayo-Yáñez and colleagues documented that females reported more frequent fears about the use of AI in otolaryngology than males, and that agreement scores for AI use in medicine decreased significantly with age [4]. These demographic patterns have direct clinical implications: if older patients and women are less receptive to AI-assisted care, the deployment of such tools without adequate patient communication strategies risks eroding therapeutic relationships and reducing adherence to recommended treatment plans.

Privacy, HIPAA, and Data Security

Entering patient information into commercial AI software platforms constitutes an infringement of the Health Insurance Portability and Accountability Act (HIPAA) rule and must be avoided in clinical practice [4]. This restriction creates a meaningful practical barrier to using publicly available AILM for case-specific clinical questions involving identifiable patient data. Otolaryngology practices and health systems seeking to deploy AI tools must ensure that any platform used for clinical purposes meets HIPAA requirements, which generally means using enterprise-grade, HIPAA-compliant versions rather than consumer-facing applications. The AAO-HNS has specifically called for disclosure of conflicts of interest and integration of legal and ethical safeguards as prerequisites for responsible AI deployment [2].

Automation Bias in Fast-Paced ENT Practice

Otolaryngology outpatient practice is characteristically high-volume and fast-paced. This environment creates conditions particularly susceptible to automation bias—the tendency to defer uncritically to algorithmic recommendations rather than exercising independent clinical judgment. In fast-paced outpatient settings, the risk that a clinician accepts an AI output without adequate critical appraisal is heightened [5]. ChatGPT's documented tendency to propose more additional examinations than clinicians would order in practice [8] could drive unnecessary testing and patient anxiety if its recommendations are accepted without scrutiny. Establishing clear institutional guidelines for when and how AI tools should be consulted, and ensuring that these guidelines are actively reinforced in training, is essential to mitigating automation bias.

Liability in AI-Assisted Otolaryngology

When AI contributes to a harmful clinical decision in an otolaryngology context—for instance, if an AI algorithm recommends inappropriate treatment for a head and neck cancer based on erroneous staging—questions of liability become deeply complex. Current legal frameworks do not clearly assign responsibility among the treating physician, the deploying institution, and the algorithm developer. The AAO-HNS has been explicit that otolaryngologists remain ultimately responsible for patient care regardless of what AI tools are consulted [2], and this principle of physician primacy provides the most pragmatic current framework for navigating liability. However, formal regulatory and legal evolution will be necessary as AI systems take on more consequential clinical roles.

An Ethical Framework for AI in Otolaryngology

Arambula and Bur proposed applying the four classical pillars of biomedical ethics to the specific context of otolaryngology, providing a durable framework that remains highly relevant as the

technology has evolved [5].

Respect for autonomy demands that otolaryngologists provide patients with meaningful disclosure about the role of AI in their care. For conditions such as head and neck cancer—where an algorithmic recommendation might influence a decision about glossectomy, laryngectomy, or the extent of neck dissection—the stakes of inadequate disclosure are particularly high. An algorithm that recommends glossectomy may benefit a patient who values maximizing life expectancy but may cause profound harm to a patient whose quality of life depends heavily on swallowing and taste; such immaterial, individualized values will not be captured by AI programs [5].

Beneficence requires that AI tools deployed in otolaryngology practice be rigorously validated on diverse, representative datasets and regularly updated to reflect evolving clinical evidence. The 'garbage in, garbage out' problem identified by Arambula and Bur remains fully pertinent: an algorithm for oropharyngeal cancer that was trained on data predating the adoption of current HPV staging would produce systematically incorrect prognoses [5]. Nonmaleficence demands robust quality control and vigilance against automation bias. Justice requires that the benefits of AI—including improved diagnostic accuracy, patient education, and clinical decision support—be made available to all patients, not only those whose characteristics are well-represented in training datasets or those whose health systems can afford AI infrastructure [5].

The AAO-HNS position statement adopted in November 2025 operationalizes these principles by calling for rigorous evaluation, ongoing monitoring, and auditing across diverse patient populations; interdisciplinary collaboration; and alignment with national and international health priorities to ensure AI is implemented responsibly and sustainably [2].

Future Directions: AI in Otolaryngology

Subspecialty-Specific AI Applications on the Horizon

The trajectory of AI development across otolaryngology subspecialties points toward increasingly sophisticated and clinically integrated tools. In otology, automated audiogram interpretation and deep learning algorithms for middle ear image segmentation are already under active development. AI-assisted tele-otoscopy platforms have demonstrated the ability to enable remote diagnosis of otitis media, with potential transformative impact on access to pediatric ear care in rural and underserved communities. Automated measurement of vestibular schwannoma on MRI has demonstrated validity and accuracy comparable to expert manual measurement, with significant implications for longitudinal surveillance of acoustic neuroma patients [4].

In laryngology, voice analysis is emerging as a powerful digital biomarker for a range of conditions beyond laryngeal pathology, including neurological and psychiatric disorders. Briganti and Lechien published a systematic review in 2025 documenting the application of voice quality as a digital biomarker in bipolar disorder [4]. AI-powered acoustic analysis of vocal features holds promise for screening applications in primary care and otolaryngology settings alike. In rhinology, AI models for automated analysis of olfactory test results and impedance-pH monitoring data are under investigation, though current AILM still demonstrate variable and unreliable performance in recommending these specialized investigations [1].

Head and Neck Cancer: AI in Diagnosis, Staging, and Treatment Planning

Head and neck oncology represents perhaps the highest-stakes application of AI in otolaryngology, given the consequences of diagnostic error. ChatGPT-4 demonstrated the ability to interpret confocal laser endomicroscopy images to distinguish oropharyngeal carcinoma from normal tissue, provide perfect cTNM explanations in 95% of cases, and correctly propose primary treatments in 65% of multidisciplinary board cases [1]. While these results are promising, they highlight that AI currently performs as a useful adjunctive tool rather than a replacement for multidisciplinary oncologic expertise. Future iterations of AI will likely incorporate multimodal inputs—combining imaging, pathology, genomics, and clinical data—to produce individualized treatment recommendations with greater accuracy and specificity than is currently achievable.

Generative AI and the Evolution of Otolaryngology Practice

Lechien, writing in Otolaryngology Clinics of North America in 2024, argued that generative AI has the potential to revolutionize otolaryngology—head and neck surgery practice, with the next few years being decisive for applying new AI technologies in office-based practice [1]. This vision encompasses AI-generated clinical documentation that reduces the administrative burden on otolaryngologists, AI-powered patient communication tools that provide around-the-clock responses to post-operative questions, and AI-assisted quality improvement initiatives that continuously monitor outcomes and flag deviations from best practices.

The booming pace of publication in this area—with 2023 representing the highest-ever volume of AI-related otolaryngology literature—means the evidence base is evolving rapidly. Practitioners who engage actively with this literature, develop critical appraisal skills for AI research, and participate in the design of institutional AI governance frameworks will be better positioned to benefit their patients than those who remain passive observers [1].

Patient Education and the Expanding Role of AILM

As patients increasingly consult AILM before and after otolaryngology appointments, the specialty has an opportunity to shape how these tools are used in a way that promotes rather than undermines patient safety. Otolaryngology practices and professional societies can develop vetted, specialty-specific AI prompts and guidance materials that direct patients toward high-quality AI interactions. The finding that ChatGPT-3.5

outperformed an experienced surgeon in rhinoplasty patient education assessments in 80.95% of instances [1] suggests that, for appropriate routine educational content, AI may genuinely augment the patient experience. Conversely, the documented risk of misinformation in cancer-related queries underscores the need for clear guidance about when patients should seek direct clinician input rather than relying on AI.

AI Governance and the Role of the AAO-HNS

The AAO-HNS has taken an increasingly active role in shaping responsible AI development for the specialty. The 2024 AAO-HNS Report on Artificial Intelligence, authored by the Academy's AI Task Force, provided a comprehensive framework for evaluating AI governance in otolaryngology—head and neck surgery [6]. The Academy's 2025 position statement built upon this foundation, emphasizing the collaborative, assistive role of AI in augmenting physician judgment, and calling for clinician education, interdisciplinary collaboration, and integration of legal and ethical safeguards [2]. Ongoing governance work by the AAO-HNS will be essential to ensuring that AI development in the specialty remains aligned with the values of safety, equity, and patient-centered care.

Conclusion

Artificial intelligence holds extraordinary promise for otolaryngology—head and neck surgery. Across subspecialties, AI tools are demonstrating meaningful utility for patient education, clinical decision support, resident training, surgical planning, oncologic staging, and research acceleration. Patient acceptance of AI in otolaryngological care is moderately high overall, with particular enthusiasm among younger, technology-engaged patients—though concerns about dehumanization, diagnostic accuracy, and data privacy are real and must be addressed proactively.

At the same time, the limitations of current AI systems in otolaryngology are well-documented. Hallucinations, variable performance across clinical scenarios, systematic biases in training data, and the persistent risk of automation bias all argue strongly for positioning AI as a tool that augments physician expertise rather than one that supplants it. The otolaryngologist remains the indispensable center of patient care: capable of the empathic, individualized, and contextually nuanced clinical reasoning that no algorithm has yet come close to replicating.

The path forward requires rigorous specialty-specific validation of AI tools across diverse patient populations; thoughtful integration of legal, ethical, and privacy safeguards; sustained clinician education in AI literacy; and active engagement with professional societies such as the AAO-HNS in shaping governance frameworks. Otolaryngologists who embrace this challenge—not merely as consumers of AI technology but as critical participants in its development and oversight—will be best positioned to ensure that the AI revolution in their specialty serves the interests of every patient.

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Conflicts of Interest

No conflicts of interest.

References

1. Lechien JR (2024) Generative AI and Otolaryngology—Head & Neck Surgery. Otolaryngol Clin North Am 57(5): 753-765.
2. American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS). Artificial Intelligence in Otolaryngology. Position Statement. Approved November 11, 2025.
3. RAISE Health Newsletter, Issue 20. Stanford University. November 20, 2025. Topics: Agents4Science conference on AI-authored research; GPT-5 safety risks in medicine (Nature Medicine, Oct. 2025); MedAgentBench benchmarking tool (NEJM AI, Aug. 2025).
4. Mayo Yáñez M, Rameau A, Vaira LA, et al. (2025) Patient Perceptions of Artificial Intelligence in Otolaryngology—Head and Neck Surgery: An International Study. Ear Nose Throat J.
5. Arambula AM, Bur AM (2020) Ethical Considerations in the Advent of Artificial Intelligence in Otolaryngology. Otolaryngol Head Neck Surg 162(1): 38-39.
6. Ayoub NF, Rameau A, Brenner MJ, Bur AM, Ator GA, et al. (2024) AAO-HNS AI Task Force. American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) Report on Artificial Intelligence. Otolaryngol Head Neck Surg.
7. Nwosu OI, Crowson MG, Rameau A (2023) Artificial Intelligence Governance and Otolaryngology-Head and Neck Surgery. Laryngoscope 133(11): 2868-2870.
8. Lechien JR, Maniaci A, Gengler I, et al. (2024) Validity and reliability of an instrument evaluating the performance of intelligent chatbot: the Artificial Intelligence Performance Instrument (AIPI). Eur Arch Otorhinolaryngol 281(4): 2063-2079.
9. Vaira LA, Lechien JR, Abbate V, et al. (2023) Accuracy of ChatGPT-Generated Information on Head and Neck and Oromaxillofacial Surgery: A Multicenter Collaborative Analysis. Otolaryngol Head Neck Surg.
10. Marchi F, Bellini E, Iandelli A, et al. (2024) Exploring the Landscape of AI-Assisted Decision-Making in Head and Neck Cancer Treatment: A Comparative Analysis of NCCN Guidelines and ChatGPT Responses. Eur Arch Otorhinolaryngol 281(4): 2123-2136.
11. Lechien JR, Chiesa-Estomba CM, Baudouin R, et al. (2024) Accuracy of ChatGPT in head and neck oncological board decisions: preliminary findings. Eur Arch Otorhinolaryngol 281(4): 2105-2114.
12. Bur AM, Shew M, New J (2019) Artificial Intelligence for the Otolaryngologist: A State of the Art Review. Otolaryngol Head Neck Surg 160(4): 603-611.
13. Hoch CC, Wollenberg B, Lüers JC, et al. (2023) ChatGPT's quiz skills in different otolaryngology subspecialties: an analysis of 2576 single-choice and multiple-choice board certification preparation questions. Eur Arch Otorhinolaryngol 280(9): 4271-4278.
14. Shah NH, Pfeffer MA, Ghassemi M (2024) The Need for Continuous Evaluation of Artificial Intelligence Prediction Algorithms. JAMA Netw Open 7(9): e2433009.
15. Matheny ME, Goldsack JC, Saria S, et al. (2025) Artificial Intelligence in Health and Health Care: Priorities for Action. Health Affairs 44(1).