



**AI & ROBOTICS:
OVERVIEWS AND REVIEWS**

[Advancements in dental science through artificial intelligence and machine learning: a comprehensive review](#)

Int J Clin Pediatr Dent 2026; 19(1): 120-126

[Dentists' awareness of data security and ethical issues during the transition to artificial intelligence-driven clinical practice](#)

Acta Odontol Scand 2026; 85: 61-66

[Generative artificial intelligence: applications and future prospects in dentistry](#)

Int Dent J 2026; 76(1): 108276

[Artificial intelligence: what is current in dentistry?](#) [free to members on Science Direct. If you do not have a login email library@bda.org to request one]

Dent Clin N Amer 2026; 70(1): 99-115

[The ethics and governance of large language models in dentistry: A framework for research and clinical implementation](#) [free to members on Science Direct. If you do not have a login email library@bda.org to request one]

J Dent 2026; 164: 106187

Can chatbots transform dentistry? [Log in to the [BDA home page](#) and follow the link to the BDJ Portfolio to access]

BDJ In Practice 2026; 39 (1): 21

[Artificial intelligence applications in dentistry: a systematic review](#)

Oral 2025; 5(4): 90

The role of artificial intelligence in clinical dentistry: current applications and future perspectives [can be accessed on DOSS free by logging in [on this page](#)]

Compend Cont Educ Dent 2025; 46(10): 474-480

[The future of scientific writing: AI tools, benefits, and ethical implications](#)

Braz Dent J 2025; 36: e256471

[Application of machine learning in dentistry: insights, prospects and challenges](#)

Acta Odontol Scand 2025; 84: 145-154

Artificial intelligence in dentistry: an overview of systematic reviews and meta-analysis [Log in to the [BDA home page](#) and follow the link to the BDJ Portfolio to access]

EBD 2025; 26: 180

Performance of multimodal generative AI models in addressing complex dental inquiries with text, images, and analytical data [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2025; online 25 Nov: jerd.70064

[Understanding data drift in dental AI](#)

Int Dent J 2025; 75(6): 103937

The role of social robots in dentistry: security, privacy and future prospects [Log in to the [BDA home page](#) and follow the link to the BDJ In Practice to access]

BDJ 2025; 239 (9): 647-651



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Use of artificial intelligence for self-diagnosis: Dento-legal implications [Log in to the BDA home page and follow the link to the BDJ In Practice to access]	BDJ In Practice 2025; 38 (11): 384-385
Implementation of a Virtual Dental Assistant based on GPT: Part 2 [Log in to the BDA home page and follow the link to the BDJ In Practice to access]	BDJ In Practice 2025; 38 (6): 190-193
Artificial intelligence in dentistry: a bibliometric analysis [Log in to the BDA home page and follow the link to the BDJ to access]	BDJ (2025). https://doi.org/10.1038/s41415-025-8885-y
Some dento-legal considerations about AI in dentistry [Log in to the BDA home page and follow the link to the BDJ to access]	BDJ 2025; 239 (6): 402-405
Performance of large language models (ChatGPT4-0, Grok2 and Gemini) in UK dentistry and dental hygiene and therapy assessments	BDJ (2025). https://doi.org/10.1038/s41415-025-8383-2
The expanding role of AI in dentistry: beyond image analysis [Log in to the BDA home page and follow the link to the BDJ Portfolio to access]	BDJ 2025; 238 (10): 800-801
Artificial intelligence in dental age estimation- applications, technological advances and legal aspects: A narrative review	J Oral Biol Craniofac Res 2025; 15 (6): 1534-8
AI in dental service provision – rapid evidence assessment. Final report	© General Dental Council, Aug 2025
Reporting guideline for chatbot health advice studies - The CHART Statement	JAMA Network Open 2025; 8 (8): 10.1001/jamanetworkopen.2025.30220
The potential of artificial intelligence in the early detection of systemic diseases during routine dental care [Log in to the BDA home page and follow the link to the BDJ Portfolio to access]	BDJ 2025; 239 (3): 168-74
Can large language models serve as reliable tools for information in dentistry? A systematic review	Int Dent J 2025; 75(4): 100835
Accuracy of artificial intelligence in making diagnoses and treatment decisions in pediatric dentistry [can be accessed on DOSS free by logging in on this page]	Pediatric Dentistry 2025; 47(2): 73-78
The risks of artificial intelligence: A narrative review and ethical reflection from an Oral Medicine group	Oral Diseases 2025; 31(2): 348-353
Applications of artificial intelligence in dental medicine: a critical review	Int Dent J 2025; 75(2): 474-486
The transformative role of artificial intelligence in dentistry: a comprehensive overview. part 1: fundamentals of AI, and its contemporary applications in dentistry	Int Dent J 2025; 75(2): 383-396



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The transformative role of artificial intelligence in dentistry: a comprehensive overview part 2: the promise and perils, and the International Dental Federation communique	Int Dent J 2025; 75(2): 397-404
Moving toward implementation of responsible artificial intelligence in health care - The European TRAIN Initiative	JAMA 2025 online 10 Feb doi:10.1001/jama.2025.1335
Artificial intelligence in dentistry: FDI policy statement	Int Dent J 2025; 75(1): 3-4
AI in oral medicine: is the future already here? A literature review	BDJ 2024; 237(10): 765-770
Artificial intelligence applications in dentistry: A bibliometric review with an emphasis on computational research trends within the field [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Am Dent Assoc 2024; 155 (9): 755-64
Comparing the dental knowledge of large language models [Log in to the BDA home page and follow the link to the BDJ Portfolio to access]	BDJ (2024). doi.org/10.1038/s41415-024-8015-2
Is UK dentistry ready to fully embrace artificial intelligence? [Log in to the BDA home page and follow the link to the BDJ Portfolio to access]	BDJ In Practice 2024; 37(11): 412-415
Trustworthy artificial intelligence in dentistry: learnings from the EU AI Act	J Dent Res 2024; online 23 Sep doi.org/10.1177/00220345241271160
Development of artificial intelligence models for tooth numbering and detection: a systematic review	Int Dent J 2024; 74(5): 917-929
Ethical considerations for the integration of artificial and augmented intelligence in dentistry: Navigating the landscape and preparing for the future [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Am Dent Assoc 2024; 155 (8): 721-2
Innovating dental diagnostics: ChatGPT's accuracy on diagnostic challenges [Accessible from the Wiley link on this page]	Oral Diseases 2024; online 22 Jul doi.org/10.1111/odi.15082
Leveraging Large Language Models in the delivery of post-operative dental care: a comparison between an embedded GPT model and ChatGPT	BDJ Open 2024; 10: Art 48
Medical ethics of large language models in medicine	NEJM AI 2024; 1 (7) 10.1056/Alra2400038
Accuracy and consistency of chatbots versus clinicians for answering pediatric dentistry questions: A pilot study [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dentistry 2024; 144: 104938



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Assessing the performance of Bing Chat artificial intelligence: Dental exams, clinical guidelines, and patients' frequent questions [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dentistry 2024; 144: 104927
Students' perceptions towards the ethical considerations of using artificial intelligence algorithms in clinical decision-making [Log in to the BDA home page and follow the link to the BDJ to access]	BDJ 2024; 236(6): doi.org/10.1038/s41415-024-7184-3
Current applications of artificial intelligence for pediatric dentistry: a systematic review and meta-analysis [can be accessed on DOSS free by logging in on this page]	Pediatr Dent 2024; 46 (1): 27-35
Is ChatGPT a reliable source of scientific information regarding third-molar surgery? [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Am Dent Assoc 2024; 155 (3): 227-32
The impact and opportunities of large language models like ChatGPT in oral and maxillofacial surgery: a narrative review	Int J Oral Maxillofac Surg 2024; 53 (1): 78-88
Research and application of artificial intelligence in dentistry from lower-middle income countries – a scoping review	BMC Oral Health 2024; 24(1): 220
Fairness of artificial intelligence in healthcare: review and recommendations	Jpn J Radiol 2024; 42(1): 3-15
Natural language processing: chances and challenges in dentistry	J Dent 2024; 141: 104796
Implications of large language models such as ChatGPT for dental medicine	J Esthet Restor Dent 2023; 35(7): 1098-1102
Ethical considerations on artificial intelligence in dentistry: A framework and checklist [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2023; 135: 104593
Artificial intelligence in forensic medicine and forensic dentistry	J Forensic Odonto-Stomatol 2023; 41(2): 30-41
Artificial intelligence in dentistry: a review of ChatGPT's role and potential [can be accessed on DOSS free by logging in on this page]	Quintessence Int 2023; 54 (7): 526-527
Artificial intelligence in dentistry: A bibliometric analysis from 2000 to 2023	J Dent Sci 2023; online 11 Nov doi.org/10.1016/j.jds.2023.10.025
Implications of ChatGPT in public health dentistry: a systematic review	Cureus 2023; 15 (6): e40367
Patients' perspectives on the use of artificial intelligence in dentistry: a regional survey	Head Face Med 2023; 19: Art 23



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AI in dentistry: understanding and realising its full potential [can be accessed on DOSS free by logging in on this page]	Fac Dent J 2023; 14(3): 108-111
Artificial intelligence: “summoning the demon” or “a tool, not a threat”? [can be accessed on DOSS free by logging in on this page]	Fac Dent J 2023; 14(3): 84-8
AI in dentistry: Leading the revolution	Dental Econ 2023; 113 (6)
What is the current state of artificial intelligence applications in dentistry and orthodontics? [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Stomatol Oral Maxillofac Surg 2023; 124(5): 101524
Artificial intelligence in healthcare and education [written entirely by AI]	BDJ 2023; 234: 761-4
Deep learning: A primer for dentists and dental researchers [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2023; 130: 104430
ChatGPT for shaping the future of dentistry: the potential of multi-modal large language model	Int J Oral Sci 2023; 15(1): 29
BDJ Perspective: Artificial intelligence - Advances and pitfalls; A new wine in an old bottle?; Natural language processing in dentistry; Personalised dental medicine - just a hype or true game changers? [Log in to the BDA home page and follow the link to the BDJ to access]	BDJ 2023; 234: 749-55
Dental chatbots in action [Log in to the BDA home page and follow the link to the BDJ and then BDJ In Practice to access]	BDJ In Practice 2023; 36 (5): 20-21
Artificial intelligence: what it is and what it can do for dentists [Not included in the loan copy] (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Dental Update 2023; 50 (4): 245-9
Applications of artificial intelligence in dentistry: A comprehensive review	J Esthet Restor Dent 2022; 34(1): 259-280
Artificial intelligence and clinical decision support: clinicians’ perspectives on trust, trustworthiness, and liability	Med Law Rev 2023; 31 (4): 501-20
Natural language processing for clinical notes in dentistry: A systematic review	J Biomed Informatics 2023; 138: 104282
Towards trustworthy AI in dentistry	J Dent Res 2022; 101 (11): 1263-1268
Application of artificial intelligence in the dental field: A literature review	J Prosthodont Res 2022; 66(1): 19-28
Artificial intelligence in dentistry-narrative review	Int J Environ Res Public Health 2022; 19(6): 3449



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Artificial intelligence for sustainable oral healthcare [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2022; 127: 104344
How AI is transforming dental practice [Not included in the loan copy] [can be accessed on DOSS free by logging in on this page]	Compendium Continuing Educ Dent 2021; 42(1): 14-17
Artificial intelligence in medico-dental diagnostics of the face: a narrative review of opportunities and challenges	Clin Oral Investig 2022; 26 (12): 6871-6879
Artificial intelligence techniques: analysis, application, and outcome in dentistry—a systematic review	Biomed Res Int 2021: 9751564
Promises and perils of artificial intelligence in dentistry	Aust Dent J 2021; 66(2): 124-135
Applications of deep learning in dentistry [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	Oral Surg Oral Med Oral Pathol Oral Radiol 2021; 132(2): 225-238
Use of artificial intelligence in dentistry: current clinical trends and research advances	J Can Dent Assoc 2021; 87: 17
Robot technology in dentistry, part two of a systematic review: an overview of initiatives [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	Dent Mater 2021; 37(8): 1227-1236
Robot technology in dentistry, part one of a systematic review: literature characteristics [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	Dent Mater 2021; 37(8): 1217-1226
Artificial intelligence and ethics in dentistry: A scoping review [can be accessed on DOSS free by logging in on this page]	J Dent Res 2021; 100 (13): 1452-1460
Disruptive innovation in dentistry: What it is and what could be next [can be accessed on DOSS free by logging in on this page]	J Dent Res 2021; 100(5): 448-453
Application of artificial intelligence in dentistry [can be accessed on DOSS free by logging in on this page]	J Dent Res 2021; 100(3): 232-244
Attitudes and perceptions of dental students towards artificial intelligence	J Dent Educ 2021; 85(1): 60-68
Artificial intelligence in dentistry: chances and challenges	J Dent Res 2020; 99(7): 769-774
The ways of using machine learning in dentistry	Adv Clin Exp Dent 2020; 29(3): 375-384