Table 1 Chairside synopsis for antimicrobial prescribing in dentistry for common conditions in children. Summarised guidance reproduced with permission from Antimicrobial Prescribing in Dentistry: Good Practice Guidelines developed by the College of General Dentistry and the Faculty of Dental Surgery of the Royal College of Surgeons of England, 2020

Condition	Summary of recommendations*	Where antimicrobial indicated*, for children: (all oral doses for up to 5 days)				See*
Acute periapical infection (dental abscess)	Drain abscess, remove infected pulp or extract tooth Antimicrobials as an adjunct to definitive treatment **ONLY if evidence of systemic spread or diffuse swelling** Metronidazole/clarithromycin to be used as 2nd choice antimicrobials. BUT can be used as first line treatment: ✓ for patients allergic to a penicillin ✓ for patients who have had a recent course of a penicillin Clindamycin/cephalosporins/ co-amoxiclav **ONLY at the direction of an oral/ medical microbiology or infectious diseases specialist**	**1st Choice Antimicrobial**	Age	Oral dose	increased, if necessary, in severe infections, up to	p13
		PHENOXYMETHYLPENICILLIN OR	1–5 years	125 mg QDS	12.5 mg/kg QDS	
			6–11 years	250 mg QDS	12.5 mg/kg QDS	
			12–17 years	500 mg QDS	1 g every 6 hours	
		AMOXICILLIN	1–4 years	250 mg TDS	30 mg/kg TDS	
			5–11 years	500 mg TDS	30 mg/kg TDS (max. 1 g)	
			12–17 years	500 mg TDS	1 g TDS	
		METRONIDAZOLE (2nd Choice antimicrobial) OR	1–2 years		50 mg TDS	
			3–6 years		100 mg BD	
			7–9 years		100 mg TDS	
			10–17 years		200–250 mg TDS	
		CLARITHROMYCIN (2nd Choice antimicrobial)	1 month–11 years (body-weight 12–19 kg)		125 mg BD	
			1 month–11 years (body-weight 20–29 kg)		187.5 mg BD	
			1 month–11 years (body-weight 30–40 kg)		250 mg BD	
			12–17 years: 250 mg BD		increasing to 500 mg BD in severe infections	
Pericoronitis	Debride and irrigate pericoronal space, and drain if localised abscess Antimicrobials as an adjunct to local measures **ONLY if evidence of systemic spread, severe swelling or trismus**	**METRONIDAZOLE** 10–17 years of age 200–250 mg orally three times a day for up to 5 days or **AMOXICILLIN** 12–17 years of age 500 mg orally three times a day for up to 5 days				p49
Necrotising periodontal disease	Debride under local anaesthetic and OHI Antimicrobials as an adjunct to local measures **ONLY if evidence of systemic involvement**					p35
Acute pulpitis	Provide definitive treatment of the cause, such as extirpation of the pulp or extraction for a tooth with irreversible pulpitis	Antimicrobial not indicated				p65
Dry socket	Irrigate with sterile solution to remove debris and consider placing a suitable dressing in the socket which may relieve symptoms					p39

*Practitioners should refer to Antimicrobial Prescribing in Dentistry: Good Practice Guidelines for full wordings: https://cgdent.uk/antimicrobial-prescribing-in-dentistry/

Academic publishing

Lessons from Alzheimer's research

Sir, a publication in the journal *Science*[1] highlighted a growing threat to the scientific and medical communities: the manipulation of data through the use of computer-generated images. This article, which focused on Alzheimer's disease research,[2] revealed how subtle and hard-to-detect manipulations can have substantial consequences for the accuracy and credibility of scientific findings. The study in question was published in 2006 and has since been cited nearly 2,300 times, centred around the theory that beta-amyloid plays a critical role in the development of Alzheimer's disease. However, upon closer inspection of the images used in the study, evidence of potential image manipulation was found. Specifically, the suspicion is on an image of a Western Blot that may have been constructed using images from different experiments. Whilst the investigation is ongoing, it raises concerns that the results may not be entirely accurate.

This issue highlights a new threat to the integrity of academic publishing. With greater access to increasingly sophisticated digital tools, including artificial intelligence (AI), those involved in academic publishing (from funders to journals) need to be aware of the risk of very convincing image manipulation and data falsification. Unfortunately, this problem is not confined to academia, as demonstrated by a recent case where a photographer won a prize at the Sony World Photography awards using an entirely AI-generated image.[3]

The field of dentistry is not immune to such issues. Dental journals must establish critical and robust mechanisms to detect and prevent any such activities that threaten the integrity of academic publishing. The scientific and medical communities must proactively ensure that research is based on honest data and that researchers adhere to strict ethical guidelines when conducting and seeking to publish their work. As the *Science* article aptly states, 'You can't cheat to cure a disease…'[1]

It is essential that the scientific and medical communities including publishers work together as a collective to share resources, develop tools for identifying such issues and impose serious sanctions on those who seek to undermine the necessity of high standards of ethical practice. Only by doing so can we ensure that our findings are reliable and trustworthy, and ultimately, seek to improve patient care.

C. Gheorghiu, M. Dave, Manchester, UK

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Virtual reality

Gag control

Sir, gag reflex is a common challenge in dentistry, causing discomfort and anxiety for both patients and dental practitioners. Gagging reactions can range from mild choking to violent retching, and are often triggered during impression-making or when the palate is inadvertently touched with a mouth mirror.[1] For some patients, the experience of gagging can be traumatic, leading to avoidance of necessary dental procedures.[2]

Mild retching is more common and can be managed with simple techniques such as distraction or breathing exercises, while severe retching may require more intensive measures, such as sedation or general anaesthesia.[3] To address this issue, various methods have been developed to manage the gag reflex, such as acupressure, hypnosis, and cognitive behavioural therapy.[4] However, these methods may not be effective for all patients. In recent years, virtual reality technology has emerged as a promising approach for managing gagging. Virtual reality technology creates a simulated environment that can distract patients from the dental procedure and reduce anxiety (Fig. 1). Several studies have demonstrated the effectiveness of virtual reality in reducing gagging and increasing patient satisfaction during dental procedures.[5] This technology offers a non-invasive and potentially transformative solution to managing gag reflex.

Despite the challenges posed by the gag reflex, it is important for dental practitioners to remain empathetic and compassionate towards their patients. By incorporating virtual reality technology into their practice, dental practitioners can help alleviate this distress and improve the overall experience of dental care for their patients.

Fig. 1 Virtual reality technology creates a simulated environment that can distract patients from the dental procedure and reduce anxiety

N. A. Sudharson, S. Mathew, N. Kurian, K. G. Varghese, Ludhiana, India

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