

CPD questionnaire • Vol 2 • 2026

Prebiotics, probiotics and synbiotics in human health, clinical applications an update

1. Which one of the following best describes a probiotic?

- a Non-digestible food ingredients that selectively stimulate the growth of beneficial gut bacteria
- b Live microorganisms which, when administered in adequate amounts, confer a health benefit on the host
- c A mixture of live microorganisms and substrates selectively utilised by host microorganisms
- d Any lactic acid-producing bacteria used in food fermentation, regardless of health benefit

2. Which statement regarding synbiotics is most accurate?

- a Synbiotics refer to combinations of different probiotic strains only
- b Synbiotics are prebiotics that enhance absorption of vitamins in the colon
- c Synbiotics are mixtures containing both probiotics and prebiotic substrates that are selectively utilised by host microorganisms and confer a health benefit
- d Synbiotics are combinations of antibiotics and probiotics used to prevent resistance

3. Which of the following is a recognised clinical benefit supported by evidence for specific probiotic strains?

- a Complete eradication of *Clostridioides difficile* infection in all treated patients
- b Reduction in the incidence of antibiotic-associated diarrhoea by certain strains such as *Lactocaseibacillus rhamnosus GG* and *Saccharomyces boulardii*
- c Universal prevention of colon cancer in humans
- d Replacement of standard therapy in inflammatory bowel disease

Otitis externa: What clinicians need to hear: pathophysiology, management and treatment

4. Which microorganism is most commonly responsible for bacterial otitis externa?

- a *Aspergillus* species
- b *Candida* species
- c *Pseudomonas aeruginosa*
- d *Escherichia coli*
- e *Klebsiella pneumoniae*

5. Which topical antibiotic is safe to use in acute bacterial otitis externa even if the tympanic membrane is not intact?

- a Neomycin
- b Gentamicin
- c Ciprofloxacin
- d Polymyxin B
- e Amoxicillin

6. Which of the following topical preparations is most appropriate for reducing inflammation and swelling in bacterial otitis externa?

- a Gentamicin
- b Neomycin with polymyxin B-hydrocortisone
- c Polymyxin B alone
- d Acetic acid 10% solution
- e Clotrimazole

7. Which of the following is recommended for pain relief in patients with mild to moderate pain from acute otitis externa?

- a Morphine
- b Ibuprofen
- c Ciprofloxacin
- d Neomycin-hydrocortisone
- e Clotrimazole

Advancing wound care: antiseptic strategies – povidone-iodine

8. Povidone-iodine mechanism of action: Choose the correct option.

- a Free iodine causes oxidation of fatty acids, leading to membrane destabilisation.
- b Denaturise the microbial protein component.
- c Free iodine binds to negatively charged phosphate in the bacterial cell wall, resulting in cell death.
- d Impairs membrane permeability.

9. Choose the correct answer regarding chlorhexidine

- a Has good antibiofilm activity.
- b Undiluted chlorhexidine delays wound healing.
- c Impregnated dressings eliminate *Streptococcus epidermidis*.
- d Effective in coating of surgical instruments.

10. Comparative clinical efficacy. Choose the best answer

- a Povidone-iodine is inferior to chlorhexidine gluconate in preventing surgical site infections.
- b Saline irrigation has a significantly better wound-healing outcome than povidone-iodine.
- c Povidone-iodine has broader antimicrobial activity than polyhexanide.
- d Hypochlorous acid produced the highest Therapeutic Index (TI) value for methicillin-resistant *Staphylococcus aureus*.

11. The correct sequence for wound healing is:

- a Proliferation, inflammation, remodelling
- b Inflammation, proliferation, remodelling
- c Inflammation, remodelling, proliferation
- d Proliferation, remodelling, inflammation

The answers for these CPD questions will be in the upcoming issue of the SAPJ. This activity can contribute towards your CPD compliance.

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1. c 2. b 3. b 4. d 5. b 6. c 7. b 8. b 9. a 10. d 11. c 12. c 13. d 14. b 15. b 16. c