

Questions and Answers for 

Diploma in Dental Nursing

Level 3

CAROLE HOLLINS



WILEY Blackwell

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Introduction

The vast majority of dental nurses in the United Kingdom currently achieve registerable qualification and regulation by the General Dental Council by one of two routes: the City & Guilds Diploma in Dental Nursing, Level 3, or the National Examining Board for Dental Nurses' National Diploma. Although the same qualification is awarded to successful candidates following either route to registration, the training and assessment methods involved for each are quite different.

In recent years the assessment methods in particular for each qualification have diverged, and it has become prudent to provide separate revision aids for each group of students. This book is aimed at those studying for the City & Guilds Diploma in Dental Nursing, Level 3. A companion textbook is available (*Diploma in Dental Nursing, Level 3*, third edition), and a separate textbook and revision aid are also available for those following the National Diploma route to qualification (*Levison's Textbook for Dental Nurses*, eleventh edition, *Questions & Answers for Dental Nurses*, third edition).

This new book is set out with relevant questions which cover every assessment criteria of the Level 3 Diploma curriculum, laid out in Units 312, 313, 314 and 315. These four units provide the theory and underpinning knowledge on which the students' written examination paper is based, while other parts of the curriculum are assessed by observation in the dental workplace. Students must complete both the necessary observation portfolio and pass the written paper before being awarded their registerable qualification.

The book layout follows that used successfully for the past 18 years for National Diploma (previously National Certificate) students, in that explanatory notes following the correct answer for each question are included in an effort to help explain not just why one answer option is correct, but often more importantly why the other options are incorrect. Students have found this additional information, often explained in an alternative manner to that used in the textbook, as highly useful in providing a greater depth of knowledge to a subject.

It is hoped that all students using this book will find it both instructive and informative, and an invaluable revision aid in their quest for qualification.

Happy reading to all.

How to Use This book

Diploma in Dental Nursing, Level 3 curriculum covers 15 units as set out in the companion textbook *Diploma in Dental Nursing, Level 3*, third edition. The first 11 units are assessed by observation in the workplace (or an appropriate alternative method), while the last four units are assessed by a written examination paper containing multiple-choice and short-answer questions. This book has been written as a revision aid for students studying for this qualification, by providing suitably styled questions covering all of the learning outcomes in these four units. More importantly, the correct answer to each question is also provided and with an accompanying explanation so that students can maximise their learning at every opportunity.

The four units which provide the theory and underpinning knowledge on which the questions have been based are as follows:

- Unit 312 – Principles of infection control in the dental environment
- Unit 313 – Assessment of oral health and treatment planning
- Unit 314 – Dental radiography
- Unit 315 – Scientific principles in the management of oral health diseases and dental procedures

Each of the units is divided in the curriculum into a varying number of learning outcomes, and these are further subdivided into assessment criteria for each outcome – it is these assessment criteria that provide the basis for the questions.

The book is laid out with a chapter for each learning outcome, and the questions are set randomly to cover all of the associated assessment criteria for that chapter. The second part of each chapter contains the correct answers given in the same order as the questions, and with explanatory notes to help students better understand the relevant theory if they find their own answers are incorrect.

So as an example, Chapter 1 relates to Unit 312, learning outcome 1 which states ‘understand the process of infection control’. The 25 questions the chapter contains then randomly cover the three assessment criteria associated with this outcome:

- 1** Describe the causes of cross-infection.
- 2** Describe the methods for preventing cross-infection.
- 3** Explain the principles of standard (universal) infection control precautions.

Obviously then, more than one question has been set for each assessment criteria.

Each question is set as a question stem followed by four possible answers: A, B, C or D. Only one option will be correct for each question. To encourage students to determine a correct answer by logic rather than by guessing, and in line with best educational practice, the answers are always set out alphabetically or numerically in ascending order rather than randomly. This removes the element of, say, choosing answer B because the previous answer was not B, and so on.

Throughout the book, there are several questions which ask the student to choose an answer which is either a true statement or a false statement, and great care must be taken to ensure that the question stem has been read correctly and that all four options are read fully before answering. It is very easy to choose what is thought to be a valid answer early on at option A and miss determining a more suitable answer at option C or D – this style of question requires the student to have both appropriate knowledge and effective reasoning skills to be completed correctly.

An example of this question style is shown below.

Which one of the following statements regarding the clinical hand-washing technique is false:

- A** Antibacterial soap should be used
- B** Illustrated directions should be present at each hand-washing sink
- C** Rinsing should occur towards the fingers
- D** Taps should not be hand-operated

Finally, although the questions are based around the final four units of the qualification curriculum, students will realise during their studies that the unit contents also link back to various of the other 11 units. So the theory and underpinning knowledge covered in Unit 312 links back to information covered in Unit 301 (ensure your own actions reduce risks to health and safety) and Unit 304 (prepare and maintain environment, instruments and equipment for clinical dental procedures). The student is therefore encouraged to begin using this revision aid as soon as possible during their studies, rather than just in the run up to sitting the written examination paper, in the hope that they gain the maximum benefit from its content, and that it provides the optimum learning opportunities for their studies.

UNIT 312

Principles of Infection Control in the Dental Environment

OUTCOME 1

Understand the Process of Infection Control

Questions

- 1** Hand hygiene is important in minimising the risk of cross infection in the dental workplace. Which one of the following levels of hand hygiene aims to physically remove routinely acquired microorganisms?
 - A** Clinical
 - B** Hygienic
 - C** Social
 - D** Surgical

- 2** Cross infection may occur in the dental workplace in a variety of ways. Which one of the following options describes the least likely method for a cross-infection incident to occur in a well-organised environment?
 - A** Aerosol spray
 - B** Direct contact
 - C** Inoculation injury
 - D** Particle spatter

- 3** What is the correct term used to describe a person who is infected with a pathogenic microorganism but who shows no outward signs of disease?
 - A** Carrier
 - B** Contaminated
 - C** High risk
 - D** Infectious

- 4** There are various levels of cleanliness referred to in the clinical setting. Which one of the following options is the term used when only bacteria and fungi have been destroyed by the cleaning method involved?
- A** Aseptic
 - B** Disinfected
 - C** Socially clean
 - D** Sterilised
- 5** Various methods are used in the dental workplace to prevent cross-infection incidents. Which one of the following options is the term used to describe the method of removing potential aerosol and droplet contamination between dental procedures?
- A** Barrier method
 - B** Surface cleaning
 - C** Use of disposables
 - D** Zoning
- 6** Which one of the following is an example of a potential indirect cross-infection incident?
- A** Clean inoculation injury
 - B** Use of disinfected extraction forceps
 - C** Use of a disposable aspirator tip
 - D** Use of a new endodontic hand file
- 7** There are various methods available to the dental team for preventing cross infection in the dental workplace. Which one of the following options is the most effective method of preventing cross infection between patients?
- A** Use of autoclave
 - B** Use of barrier methods
 - C** Use of disposable items
 - D** Use of washer–disinfector
- 8** While working in the dental workplace, the dental team will always try to avoid the transfer of microorganism contamination from one person to another. Which one of the following methods prevents cross infection from staff to patients?
- A** Disinfection
 - B** Handwashing
 - C** Sterilisation
 - D** Zoning

- 9 Various methods are used in the dental workplace to prevent cross-infection incidents. Which one of the following options is the term used to describe the method of preventing contamination of equipment items that cannot be sterilised in the usual way?
- A Barrier method
 - B Surface cleaning
 - C Use of disposables
 - D Zoning
- 10 The basic principle of the system of 'standard (universal) precautions' used in all health-care work environments is to assume which one of the following?
- A All dental personnel will be free from disease
 - B All patients will have received a full range of childhood vaccinations
 - C Any patient may be infected with a pathogen at any time
 - D Any patient may have a natural immunity to some diseases
- 11 Which one of the following options is the term used when items have undergone a process to remove physical contamination so that they can be rendered safe for reuse?
- A Cleaned
 - B Decontaminated
 - C Disinfected
 - D Sterilised
- 12 Which one of the following items of personal protective equipment is most important in preventing cross infection by aerosol spray?
- A Mask
 - B Plastic apron
 - C Safety glasses
 - D Visor
- 13 There are various routes of transmission of microorganisms that may result in a cross-infection incident. Which one of the following options is the most likely route of transmission from a patient when a member of staff has an uncovered wound on their finger?
- A Aerosol spray
 - B Airborne droplets
 - C Direct entry
 - D Inoculation

- 14** Hand hygiene is important in minimising the risk of cross infection in the dental workplace. Which level of hand hygiene aims to significantly reduce the numbers of normally resident microorganisms on the hands?
- A** Clinical
 - B** Hygienic
 - C** Social
 - D** Surgical
- 15** There are various levels of cleanliness referred to in the clinical setting. Which one of the following options is the term used when all pathogenic microorganisms and spores have been destroyed by the cleaning method involved?
- A** Decontaminated
 - B** Disinfected
 - C** Socially clean
 - D** Sterilised
- 16** Various methods are used in the dental workplace to prevent cross-infection incidents. Which one of the following options is the term used when dirty instruments are physically separated from clean ones during a dental procedure?
- A** Barrier method
 - B** Surface cleaning
 - C** Use of disposables
 - D** Zoning
- 17** Which one of the following options identifies the reason for the use of sealed pouches to store instruments in the clinical area of the dental workplace?
- A** Allows easy identification of items
 - B** Avoids aerosol contamination
 - C** Keeps items dry
 - D** Keeps items tidy
- 18** Which one of the following options is a suitable disinfectant for the routine cleaning of work surfaces in the clinical area between patients and for use as an impression disinfectant too?
- A** Aldehyde
 - B** Chlorhexidine gluconate
 - C** Isopropyl alcohol
 - D** Sodium hypochlorite

- 19** Various items of equipment are used in the dental workplace to assist in infection control processes. Which one of the following items is used to sterilise instruments and render them safe for reuse?
- A** Autoclave
 - B** Distiller
 - C** Ultrasonic bath
 - D** Washer–disinfector
- 20** Which one of the following statements regarding clinical handwashing technique is false?
- A** Antibacterial soap should be used
 - B** Illustrated directions should be present at each handwashing sink
 - C** Rinsing should occur towards the fingers
 - D** Taps should not be hand operated
- 21** Which one of the following options summarises the need for standard precautions to be followed at all times in the dental workplace?
- A** Avoids identifying infectious patients
 - B** Healthy carrier cannot be identified
 - C** Helps isolate infectious patients
 - D** Prevents any staff exposure to infectious patients
- 22** Indirect cross infection occurs when microorganisms are transferred from a contaminated item to another person. Which one of the following techniques will prevent the occurrence of indirect cross-infection incidents?
- A** Decontamination of items
 - B** High-speed aspiration
 - C** Use of disposables
 - D** Zoning of the clinical area
- 23** Many viruses are transmitted from person to person by direct contact with infected blood. Which one of the following options is the correct chemical for use when cleaning away a blood spillage?
- A** Aldehyde
 - B** Chlorhexidine gluconate
 - C** Detergent
 - D** Sodium hypochlorite
- 24** Which one of the following statements regarding the reprocessing of instruments is false?
- A** All instruments should be sterilised before reuse
 - B** Detergent solution should be used when manually scrubbing instruments
 - C** Endodontic files should be discarded after use
 - D** Metal brushes should be used to remove persistent debris

- 25** Which one of the following options is the correct sequence of events to be followed during the decontamination of instruments before sterilisation is carried out?
- A** Debride, inspect, rinse and scrub
 - B** Debride, scrub, rinse and inspect
 - C** Scrub, inspect, rinse and debride
 - D** Scrub, rinse, debride and inspect

Answers

- 1 *Correct answer C:* Social handwashing involves the use of general-purpose soap (rather than a special antibacterial hand cleanser) that is worked into a lather to physically clean the hands. This action will remove any general microorganisms from the hand surfaces, such as those acquired by using door handles in public places, taps and toilet flush handles and so on.
- 2 *Correct answer C:* Aerosol spray and particle spatter are everyday occurrences during the delivery of dental treatment and are always likely to occur in this environment. Direct contact with some body fluids (such as saliva or respiratory tract discharge) may occur outside of the immediate clinical area simply by contact with the public, as happens anywhere. However, inoculation injuries should be a rare occurrence if the infection control policy is followed correctly by all dental personnel.
- 3 *Correct answer A:* There are many diseases that can be transmitted without every sufferer becoming ill immediately (if at all), and the infected person is then often unaware that they have been exposed to pathogens. However, they can still pass the disease onto a third person by any of the usual routes of transmission, and that person will also then become infected. This intermediary who shows no signs of disease nor suffers any symptoms is called a carrier, and the likelihood of a healthy carrier unknowingly being treated at some point in a dental workplace forms the basis of the principles of 'standard precautions' – to treat every patient as a possible source of infection.
- 4 *Correct answer B:* This is the standard definition of disinfection, a cleaning process that usually involves the use of chemicals but that only kills some microorganisms, not all of them. Some viruses and the inactive state of bacteria (called spores) are unaffected by disinfection techniques and can be assumed to be present and infective unless more thorough cleaning methods are employed, such as sterilisation.
- 5 *Correct answer B:* Modern dental procedures often involve the use of high-speed hand pieces and ultrasonic instruments that create aerosols and throw particulate matter into the surrounding environment. As the spray produced falls down from the air, all exposed work surfaces can be assumed to become contaminated by any debris and pathogens within it, and they must be wiped over with a suitable surface disinfectant between patients to prevent cross infection.

- 6 *Correct answer B:* Indirect cross infection occurs when contamination from one patient is transferred to an instrument that is then used on a second patient without the contaminant being removed first. Extraction forceps are reusable items, but they must undergo sterilisation to be rendered safe for reuse on other patients. The process of disinfection alone will only remove bacteria, fungi and some viruses, and the forceps may therefore still harbour pathogens that are likely to infect the next patient.
- 7 *Correct answer C:* Disposable items are also referred to as single-use items – they are used on one patient and then safely disposed of, rather than undergoing a sterilisation process and used again on another patient. By disposing of an item after it has been used on just one patient, any contamination or pathogens it may harbour will never have the opportunity of infecting another patient because the item will never come into contact with another patient. The use of disposables is therefore the most effective method of preventing cross infection between patients.
- 8 *Correct answer B:* Handwashing is the main method of minimising the risk of cross infection from one person to another, as our hands come into contact with a multitude of potentially infected surfaces and items on a day-to-day basis, as well as being used for such personal events as nose blowing, self-cleaning after going to the toilet and so on. Of the options listed, handwashing is the only one that involves the removal of potential contamination from a staff member, while the other three options are all concerned with the removal of contamination from a patient after having undergone dental treatment.
- 9 *Correct answer A:* This technique involves covering large equipment items, or their control switches, with a layer of impervious membrane such as cling film. This prevents any direct contact of the equipment by dirty hands or by aerosol contamination during a dental procedure. Once the procedure has been completed, the barrier film is removed and safely disposed of, and a new layer can be placed before treatment begins on the next patient. Items protected in this way include computer keyboards, dental chair control switches, dental light handles and switches and the like.
- 10 *Correct answer C:* Therefore, every patient is always assumed to be potentially infected with a pathogen while attending for dental treatment and treated under standard precautions as if they could infect others at any time. Dental personnel will only be free from those diseases for which they have immunity, and all patients cannot be assumed to have received a full range of childhood vaccinations. A patient may have natural immunity to some diseases, but that will not protect dental personnel from infection by other pathogens.