1.14 Anaesthetics and Antiseptics: Simpson, Lister and Safer Surgery: 30-minute Pack

EDEXCEL 1HI0 · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Write in full sentences for Questions 2 and 3. You are advised to spend about 30 minutes on this pack.

1 State two elements of Lister's antiseptic practice in the 1860s.

(Total for Question 1 is 2 marks)

2 Explain why surgical practice changed so much in Britain between about 1840 and 1880.

You may use the following in your answer:
- James Simpson and the introduction of chloroform as an anaesthetic in the 1840s
- Joseph Lister and the introduction of carbolic antisepsis in the 1860s

You must also use information of your own.

(Total for Question 2 is 12 marks)

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3 'Without anaesthetics and antiseptics surgery could not have developed into modern safe practice.' How far do you agree? Explain your answer.

(Total for Question 3 is 16 marks)

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Mark scheme · 1.14 Anaesthetics and Antiseptics: Simpson, Lister and Safer Surgery: 30-minute Pack

Question 1

rinsing wounds and instruments with carbolic acid **B1**

using carbolic-soaked dressings to protect wounds after surgery **B1**

Answer: Rinsing wounds and instruments with carbolic acid, and using carbolic-soaked dressings to cover wounds.

Question 2

Level 1 Identifies one or two simple reasons for change in surgical practice with little or no supporting detail or explanation. **1-3**

Level 2 Offers some explanation of reasons for change, with relevant detail, but the answer is limited in development or balance. **4-6**

Level 3 Explains a range of reasons for the changes in surgical practice with accurate detail and begins to show how the reasons connect or the consequences they produced. **7-9**

Level 4 Provides a well-developed explanation of why surgical practice changed, supported throughout by precise, accurate detail and showing clear links between causes and consequences. **10-12**

Indicative content:

- The arrival of anaesthetics, such as chloroform from 1847, removed the barrier of patient pain and allowed longer and more daring operations, which encouraged surgeons to develop new techniques and reshaped the scope of surgery.
- Lister's antiseptic methods from the 1860s, building on Pasteur's germ theory, reduced deadly wound infections and therefore lowered mortality, making operations less risky and so more acceptable to both surgeons and patients.
- Technological and scientific advances, including improved surgical instruments and better understanding of anatomy, supported more precise operations once pain and infection were addressed.
- The professionalisation of surgery, with better training, hospital organisation and a growing medical press, helped spread new practices such as anaesthesia and antisepsis more quickly among practitioners.
- Public and institutional pressure, including demand from patients and support from some hospital administrators, encouraged adoption of safer techniques; high-profile failures and debates also pushed reform.
- The interplay of factors mattered: anaesthesia created the opportunity for more complex surgery, while antisepsis made those operations survivable, so both developments together led to the sharp change in surgical practice between c1840 and c1880.

Question 3

Level 1 Shows limited knowledge and offers a simple, unbalanced judgement on the statement with little supporting evidence. **1-4**

Level 2 Shows some relevant knowledge and begins to weigh factors for and against the statement, but the argument lacks depth or balance. **5-8**

Level 3 Shows good knowledge and offers a balanced evaluation of the importance of anaesthetics and antiseptics, supported by accurate evidence and some analysis. **9-12**

Level 4 Shows precise, well-selected knowledge and offers a sustained, balanced judgement on how far the statement is accurate, explaining the roles of anaesthetics and antiseptics and considering other contributing factors. **13-16**

Indicative content:

- Support for the statement: anaesthetics such as chloroform removed the barrier of pain, allowing longer, more complex operations and the development of new surgical techniques; without anaesthesia surgery would remain limited.
- Support for the statement: antiseptics introduced by Lister reduced post-operative infection and death, transforming operations from often fatal procedures into survivable ones and so enabling the growth of modern surgery.
- Qualification or challenge: other factors were also essential, such as improvements in surgical instruments, better training and professionalisation of surgeons, and changes in hospital organisation and nursing, which together with anaesthetics and antiseptics enabled safer practice.
- Qualification or challenge: advances in diagnostics, anaesthetic technique refinement, and later developments in aseptic technique and sterilisation also contributed; early anaesthetics and antiseptics were important but not the only necessary elements.
- Balanced judgement: while anaesthetics and antiseptics were crucial and foundational, they worked in combination with other scientific, institutional and technological changes; the development of modern safe surgery was a multi-causal process in which anaesthesia and antisepsis were leading but not solitary factors.

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