EDX.WF4 The Western Front, 1914-18: Wounds and Their Treatment

Total Marks

EDEXCEL 1HI0 · Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Questions 12 and 13 refer to Source A and Source B. Write in full sentences for Questions 12, 13, 14 and 15. You are advised to spend about 60 minutes on this pack.

Source A and Source B: Treating Wounds at a Casualty Clearing Station, 1917

Source A and Source B were written for Revision Library as original, representative teaching material. Source A is an account in the style of a Royal Army Medical Corps surgeon's diary, written to represent the kind of first-hand experience described in verified historical accounts of surgery at a Casualty Clearing Station; it is not the testimony of a real, named individual, and no genuine wartime document has been reproduced or quoted. Source B is an illustrative table styled on historical research into the causes of wounds on the Western Front; its figures are representative estimates for teaching purposes, not an authentic official record.

SOURCE A: from a diary written in the style of a Royal Army Medical Corps surgeon at a Casualty Clearing Station, 1917.

The man on the table this afternoon had a shrapnel wound to the thigh, the leg already swollen and discoloured by the time he reached us, mud and fragments of cloth driven deep into the flesh with the metal. We cut back every scrap of dead and blackened tissue we could find, right to healthy, bleeding muscle, and left the wound open rather than stitching it closed, since a wound sewn shut too soon on this ground turns bad within a day or two. He had been splinted at the Advanced Dressing Station before he reached us, the leg held straight and still on the journey down, which the orderly tells me made all the difference to how he arrived; a fractured femur left unsplinted on a rough stretcher journey rarely comes to us in good condition. We irrigated the wound with the new antiseptic solution before dressing it and will check it again in two days. Chances are good now, though a fortnight ago a wound like this, treated the old way, might well have cost him the leg, or worse.

SOURCE B: an illustrative table showing the estimated causes of wounds suffered by British soldiers on the Western Front and typical early treatment.

Cause of wound | Approximate share of all wounds | Typical early treatment

Shell and shrapnel fragments | roughly 55-60% | wound excision (removing dead and contaminated tissue), the wound left open, then dressed

Bullets (rifle and machine-gun fire) | roughly 30-40% | cleaning and dressing, sometimes minor surgery to remove the bullet

Poison gas | a smaller but significant share, rising after 1915 | rest, oxygen, treatment for the eyes and lungs depending on the gas used

Bayonet wounds | a very small share | cleaning and stitching where the wound was clean

Note: the figures above are illustrative estimates for teaching purposes, representing the broad pattern described in historical research into wound causes, not an exact official statistical record.

1 Give the most common single cause of wounds suffered by soldiers on the Western Front.

(Total for Question 1 is 1 mark)

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2 Name the poison gas, first used from July 1917, that caused severe blistering of the skin and lungs and could remain dangerous in the soil for days.

(Total for Question 2 is 1 mark)

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3 Name the type of gas, introduced by German forces in December 1915, which was more lethal than chlorine and harder to detect because it was almost odourless.

(Total for Question 3 is 1 mark)

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4 Name the dangerous infection, caused by bacteria commonly found in manured farmland soil, that could develop rapidly in a contaminated wound and was often fatal if untreated.

(Total for Question 4 is 1 mark)

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5 Name the splint, widely adopted by the army from 1915-16, that greatly reduced deaths from fractures of the femur (thigh bone) by holding the broken leg still during evacuation.

(Total for Question 5 is 1 mark)

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6 Give the approximate death rate from a fractured femur before the Thomas splint came into widespread army use, and the approximate rate after it did.

(Total for Question 6 is 2 marks)

7 Name the surgical procedure, involving the careful removal of dead and contaminated tissue from a wound, that became standard practice for treating shrapnel and shell wounds.

(Total for Question 7 is 1 mark)

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8 Name the antiseptic wound-irrigation treatment, developed by Alexis Carrel and Henry Dakin and introduced from around 1917, used to clean contaminated wounds.

(Total for Question 8 is 1 mark)

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9 Describe two features of wound excision as a method of treating contaminated wounds on the Western Front.

(Total for Question 9 is 4 marks)

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10 Give two reasons why wounds received on the Western Front were especially likely to become infected.

(Total for Question 10 is 4 marks)

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11 Name two treatments a wounded soldier might receive at a Regimental Aid Post before being evacuated further back along the chain.

(Total for Question 11 is 2 marks)

12 How useful is Source A for an enquiry into how surgeons treated contaminated wounds on the Western Front? Explain your answer, using Source A and your own knowledge of the historical context.

(Total for Question 12 is 8 marks)

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13 How could you use Source A and Source B to find out about the treatment of wounds on the Western Front? Explain your answer, using Source A, Source B and your own knowledge.

(Total for Question 13 is 8 marks)

14 Source A suggests one possible line of enquiry into the treatment of wounds on the Western Front. Complete the table to explain how you could follow this up.

(a) Detail in Source A that I would follow up: **(1)**

(b) Question I would ask: **(1)**

(c) What type of source I could use: **(1)**

(d) How this might help answer my question: **(1)**

(Total for Question 14 is 4 marks)

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15 Explain why new treatments such as wound excision and the Thomas splint reduced deaths among wounded soldiers on the Western Front.

(Total for Question 15 is 8 marks)

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Question 1

- **B1** shell and shrapnel fragments (accept artillery fire)
- **Answer: Shell and shrapnel fragments**

Question 2

- **B1** mustard gas
- **Answer: Mustard gas**

Question 3

- **B1** phosgene gas
- **Answer: Phosgene gas**

Question 4

- **B1** gas gangrene
- **Answer: Gas gangrene**

Question 5

- **B1** the Thomas splint
- **Answer: Thomas splint**

Question 6

- **B1** before: around 80% (accept any figure in the range 70-90%)
- **B1** after: around 20% (accept any figure in the range 15-25%)
- **Answer: The death rate fell from around 80% before widespread Thomas splint use to around 20% after.**

Question 7

- **B1** wound excision (accept debridement)
- **Answer: Wound excision (debridement)**

Question 8

- **B1** the Carrel-Dakin method (accept Dakin's solution)
- **Answer: The Carrel-Dakin method**

Question 9

- **B1** feature 1 identified, e.g. dead and contaminated tissue was carefully cut away back to healthy, bleeding tissue
- **B1** supporting detail for feature 1, e.g. this removed the bacteria-carrying dirt, mud and fragments driven into the wound, reducing the risk of infections such as gas gangrene
- **B1** feature 2 identified, e.g. the wound was usually left open rather than stitched closed immediately
- **B1** supporting detail for feature 2, e.g. this let any remaining infection drain rather than being sealed in, and the wound could be closed safely a few days later once it was clean
- **Answer: Any two features, e.g. cutting away dead/contaminated tissue back to healthy tissue, and leaving the wound open before delayed closure once clean.**

Question 10

- **B2** the heavily cultivated and manured farmland soil of Belgium and northern France carried high levels of bacteria, which entered wounds along with mud, clothing fragments and shrapnel
- **B2** casualties often faced a slow journey to reach proper treatment along the chain of evacuation, giving bacteria more time to multiply before the wound could be cleaned and excised
- **Answer: Bacteria-rich farmland soil contaminated wounds with mud and debris, and slow evacuation gave infection time to develop before treatment.**

Question 11

- **B1** basic first aid and a dressing applied to the wound
- **B1** morphine given for pain (accept splinting of an obvious fracture)
- **Answer: First aid with a wound dressing, and morphine for pain (or splinting).**

Question 12

- **Level 1** (1-2): Makes a simple comment on the content of Source A, with little or no reference to its nature, origin or purpose, or to own knowledge.
- **Level 2** (3-4): Describes the content of Source A and begins to comment on its value, with limited reference to its nature, origin, purpose or own knowledge.
- **Level 3** (5-6): Analyses the content and the nature/origin/purpose of Source A, using own knowledge to support a developing judgement about how useful it is for the given enquiry.
- **Level 4** (7-8): Analyses the content and the nature/origin/purpose of Source A in a well-supported and convincing way, using precise own knowledge to reach a sustained judgement about how useful it is for the given enquiry, considering its limitations.
- **Indicative content:**
  - Content: Source A shows a surgeon performing wound excision on a shrapnel wound, cutting away dead tissue and leaving the wound open rather than stitching it closed.
  - Content: it shows the benefit of splinting at the Advanced Dressing Station before evacuation, and the use of an antiseptic irrigation method before dressing the wound.
  - Nature/origin/purpose: as an account written to represent an RAMC surgeon's diary, it reflects the kind of first-hand testimony historians use for surgical practice, but because it is written for this pack rather than a genuine wartime diary, it cannot be used as direct primary evidence for a specific date, unit or patient.
  - Own knowledge: contextual knowledge of wound excision, the Thomas splint's effect on femur fracture mortality, and the Carrel-Dakin antiseptic method can be used to assess whether the account's description is consistent with verified historical accounts of surgical practice from around 1917.
  - A full answer weighs the source's plausible, typical content, consistent with verified historical knowledge of wound treatment, against its limitations as illustrative rather than archival material, before reaching a judgement on its usefulness for the stated enquiry.

Question 13

- **Level 1** (1-2): Makes a simple comment on the content of one source, with little or no reference to using the sources together or to own knowledge.
- **Level 2** (3-4): Describes the content of both sources and suggests, in general terms, what each could be used to find out.
- **Level 3** (5-6): Explains what Source A and Source B could each be used to find out, and begins to explain how they could be used together, supported by own knowledge.
- **Level 4** (7-8): Explains clearly and convincingly what Source A and Source B could be used to find out both separately and together, supported throughout by precise own knowledge of the historical context.
- **Indicative content:**
  - Source A shows in detail how one particular type of wound, a shrapnel wound to the thigh, was treated by a surgeon, which could be used to investigate the practical steps of wound excision and antiseptic treatment.
  - Source B shows the overall pattern of what caused wounds across the whole Western Front, which could be used to investigate how common different wound causes were and what early treatment each typically received.
  - Used together, Source A's detailed individual case and Source B's overall pattern could be used to investigate how far the treatment described for one shrapnel wound was typical of the treatment given to the largest single category of wounds shown in Source B.
  - Own knowledge could be used to check both sources against what is known about wound excision, the Thomas splint's effect on fracture survival, and the introduction of the Carrel-Dakin antiseptic method from around 1917.
  - A full answer explains what each source could be used to investigate, and how using them together allows a more complete enquiry than either source alone, while noting that both are illustrative rather than genuine archival material.

Question 14

- (a) **B1** a relevant detail identified, e.g. splinting the fractured leg at the Advanced Dressing Station before the journey made a noticeable difference to how the casualty arrived at the Casualty Clearing Station
- **(a) Answer: Splinting the leg at the Advanced Dressing Station, before the journey to the Casualty Clearing Station, made a noticeable difference to the casualty's condition on arrival.**
- (b) **B1** a follow-up question that clearly relates to the chosen detail, e.g. how widely was the Thomas splint used at Advanced Dressing Stations by 1917, and what effect did it have on survival rates
- **(b) Answer: How widely was the Thomas splint being used at Advanced Dressing Stations by 1917, and what effect did this have on survival rates for fractured limbs?**
- (c) **B1** an appropriate type of source named, e.g. RAMC medical statistics or official reports comparing survival rates for fractured limbs before and after Thomas splint use became widespread
- **(c) Answer: RAMC medical statistics comparing survival rates for fractured limbs before and after Thomas splint use became widespread.**
- (d) **B1** a clear explanation linking the source type to the question, e.g. comparing recorded death rates from fractured femurs before and after 1915-16 would show whether splinting really did improve outcomes as widely as Source A suggests
- **(d) Answer: Comparing recorded death rates from fractured femurs before and after 1915-16 would show whether splinting really did improve outcomes as widely as Source A suggests.**

Question 15

- **Level 1** (1-2): Identifies one or two general reasons why these treatments mattered, with little or no supporting detail or explanation.
- **Level 2** (3-4): Identifies and begins to explain one reason, supported by accurate detail.
- **Level 3** (5-6): Explains two reasons why these treatments reduced deaths, each supported by accurate and relevant detail.
- **Level 4** (7-8): Explains two or more reasons in a well-developed, logically structured way, supported throughout by precise and accurate detail, showing how the reasons connect.
- **Indicative content:**
  - Wound excision removed dead and contaminated tissue, including the bacteria carried in from manured farmland soil, greatly reducing the risk of infections such as gas gangrene that had previously killed many wounded soldiers.
  - Leaving an excised wound open, then closing it only once it was clean, prevented infection from being sealed inside, which had been a major cause of death earlier in the war when wounds were stitched closed too quickly.
  - The Thomas splint held a fractured femur completely still during evacuation, preventing further internal bleeding and damage from movement, and is credited with reducing femur fracture deaths from around 80% to around 20%.
  - These treatments worked together as part of the wider chain of evacuation: splinting at the Advanced Dressing Station kept a casualty stable enough to survive the journey, so they could then benefit from excision and antiseptic treatment at the Casualty Clearing Station.
  - Overall, combining better first aid close to the front with more effective surgical treatment further back meant more wounded soldiers survived injuries that would very likely have proved fatal earlier in the war.