

Pearson Edexcel GCSE

History B (Schools History Project)

Unit 3: Schools History Project Source Enquiry

Option 3A: The transformation of surgery, c1845–c1918

Sample Assessment Material for 2013

Sources Booklet

Paper Reference

5HB03/3A

Do not return this Sources Booklet with the question paper.

Turn over ►

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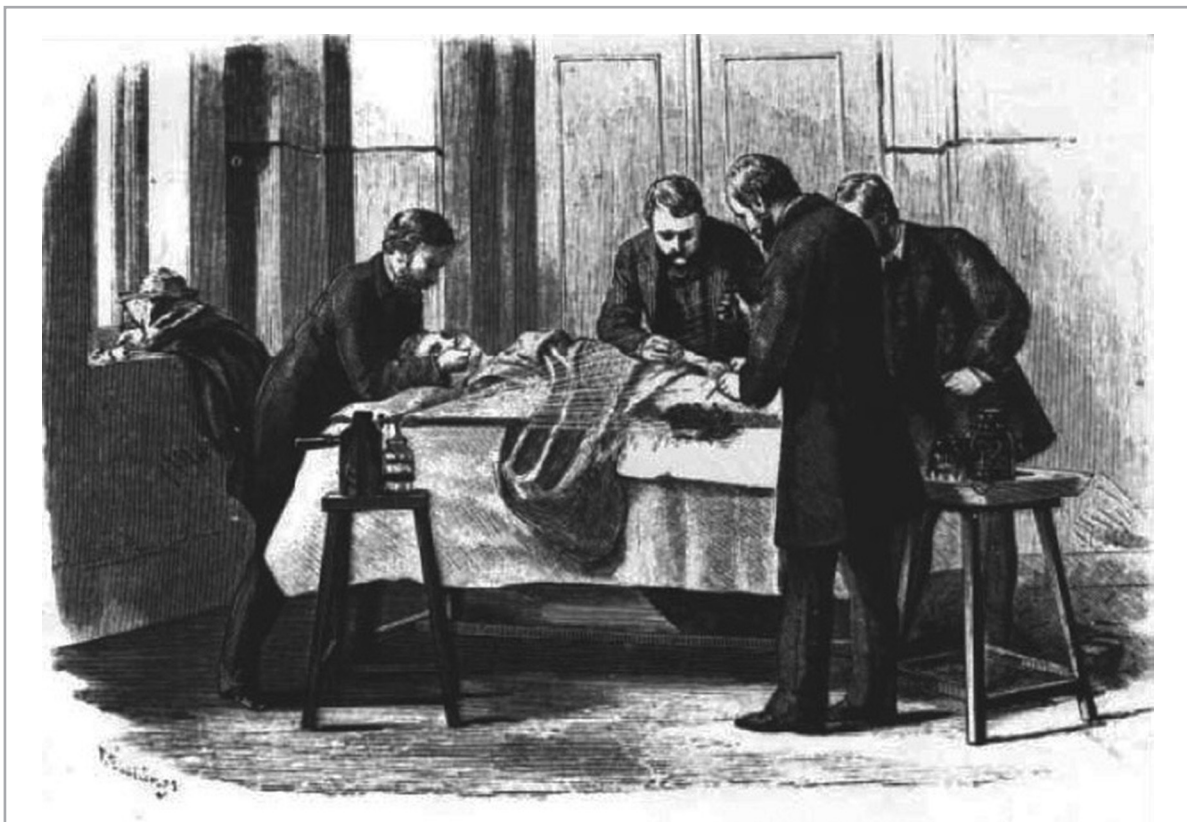
PEARSON

Historical Enquiry: Opposition to Lister

Source A: An eighteenth century painting of an operation.



Source B: An illustration and caption showing an operation from *Antiseptic Surgery*, written by one of Lister's assistants and published in 1882. It is a representation of Lister's methods.



Note the distance of the spray from the wound and the position of the surgeon and the assistant. The surgeon should always have his hands in the spray and the assistant should hand the instrument to the surgeon through the spray.

Source C: From *Lord Lister, His Life and Work* by GT Wrench, published in 1913. Here he is writing about operations in the 1860s and 1870s.

In the early nineteenth century, only the most urgent operations were carried out. Then the removal of the dreadful pain which had made an operation such a gruesome thing, seemed to open a new era for surgery. However, in hospitals the new 'blessing' of anaesthetics also led to its own defeat. More operations were undertaken for smaller problems. As a result, infection and gangrene swept through the wards with increasing force.

Source D: From an article written by the editor of *The Lancet* in 1875. *The Lancet* is a medical journal.

Many of the most successful surgeons have given Mr Lister's plan a trial and then given it up. They have returned to using previous methods. The use of the antiseptic system is certainly not more successful than the use of ordinary methods. It is said to be less successful. The germ theory may be correct, but nine out of ten surgeons do not much care whether it is or not. Their concern is only to cure their patients and reduce deaths to the lowest possible number.

Source E: From an article in *The Times* newspaper, published in 1913. It was written shortly after Lister's death.

The opponents of Lister were not all stupid. In 1865 no one could have seen how successful Lister's work would be. Disagreement arose because only a few people believed in the germ theory and accepted the views of Lister and Pasteur. Lister's early methods did not always work. Statistics showed conflicting results. There was a need for more knowledge. Meanwhile, improvements were made without using carbolic acid. All these things led to resistance and arguments.

Source F: From *Joseph Lister* by W. Watson Cheyne, published in 1927. Cheyne had been one of Lister's assistants.

It was difficult to convince surgeons that tiny objects about 0.001 mm in size could be the cause of infection. The surgeons of that day were interested in keeping up with developments in anatomy and in working faster in operations. Tiny germs seemed to have no relevance to practical work.

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5HB03/3A Mark Scheme

Question Number		
1		<p>What can you learn from Source A about how operations were carried out before the nineteenth century?</p> <p>Target: source comprehension and inference (AO3).</p>
Level	Mark	Descriptor
	0	No rewardable material.
1	1	<p>Comprehension. Answer selects relevant detail(s) from the source.</p> <p><i>eg 'The patient was held down'; or 'They are wearing ordinary clothes'.</i></p>
2	2–3	<p>Unsupported inference. Valid inference(s) are offered, but without support from the source.</p> <p><i>eg 'Surgery would be seen as a last resort'; or 'Infection was a problem in surgery'.</i></p>
3	4–6	<p>Supported inference. Valid inference(s) are made and supported from the source.</p> <p><i>eg 'The fact that they are holding the patient down suggests that it must have been very painful' or 'The presence of spectators suggests that they were not worried about infection'.</i></p> <p>One well-developed point may score a maximum of 5.</p>

Question Number		
2		<p>What was the purpose of this representation? Explain your answer, using Source B and your own knowledge.</p> <p>Target: knowledge recall and selection, key features and characteristics of periods studied, analysis of representations of history (AO1/AO2/AO3).</p>
Level	Mark	Descriptor
	0	No rewardable material.
1	1–2	<p>Simple statement about the representation. EITHER Valid comment is offered about the representation but without support from the source.</p> <p><i>eg 'It was to show how to do antiseptic surgery.'</i></p> <p>OR Answer identifies detail(s) or information from the representation, but relevance to the intended purpose is not identified.</p> <p><i>eg 'The drawing shows the antiseptic spray.'</i></p>
2	3–5	<p>Supported statement, comprehending the representation. Valid comment about the purpose of the representation is offered and linked to details in the content of the source.</p> <p><i>eg Notes that all the antiseptic equipment to be used and the people doing the operation are included with instructions, and that this is showing how an operation is done.</i></p> <p>Award top of level to candidates who identify the purpose of the representation using detail from both content AND own knowledge of the historical context.</p>
3	6–8	<p>Explained purpose, analysing the representation. Analysis of the treatment or selection of the content of the representation is used to explain its purpose.</p> <p><i>eg Notes that the combination of the details in the drawing and in the instructions is very precise, for example the distances and the actions of the surgeon and assistant are set out. The purpose is to make sure that the antiseptic method is followed very carefully. Many surgeons at the time had difficulties with the method because they were too impatient and did not carry it out carefully enough.</i></p> <p>Maximum 6 marks for answers which do not make explicit use of own knowledge of the historical context.</p>

Question Number		
3		Why was the problem of infection so great in the 1860s? Explain your answer, using Source C and your own knowledge. Target: knowledge recall and selection, key features and causation in a historical context, source comprehension (AO1/AO2/AO3).
Level	Mark	Descriptor
	0	No rewardable material.
1	1–3	Simple statements. EITHER Answer consists of simple statements from the source. OR Answer consists of simple statements based on additional knowledge without reference to the source. <i>eg 'They did too many operations.'</i>
2	4–7	Supported statements. Statements are supported by information from the source and/or additional knowledge. <i>eg Details the changes brought about by anaesthetics and describes the increase in the number and new types of operations when patients were not in pain. Links the increase in operations to increase in deaths from surgery when wounds became infected.</i> Maximum 5 marks for answers which do not use both source and additional knowledge.
3	8–10	Developed explanation. Answer uses the source and precise own knowledge. <i>eg Explains that the development of anaesthetics resulted in increased readiness of surgeons to undertake operations involving more complex surgery. Uses additional knowledge, for example of the types of operations or of the way infection was transmitted, to show that the rise in surgery, combined with the lack of understanding of the causes of wound infection led to the 'black period' of surgery.</i> NB: No access to Level 3 for answers that do not include additional knowledge.

Question Number		
4		<p>How reliable are Sources D and E as evidence of the success of Lister's antiseptic methods? Explain your answer, using Sources D and E and your own knowledge.</p> <p>Target: knowledge recall and selection, key features and characteristics of period studied, evaluation of sources for reliability (AO1/AO2/AO3).</p>
Level	Mark	Descriptor
	0	No rewardable material.
1	1–3	<p>Judgement based on simple valid criteria. Comments based on subject/amount of detail, or assumed reliability because of time/nature/origins of the source.</p> <p><i>eg 'Source D is from the time and therefore reliable'; or 'Source D is by a surgeon therefore would be reliable'; or 'Source E gives details of statistics and therefore is very reliable'.</i></p> <p>Maximum 2 marks for use of one source only.</p>
2	4–7	<p>Judgement is based on the reliability of the sources' information or is based on an evaluation of the nature or authorship of sources. EITHER Answer focuses on details which can be corroborated or challenged.</p> <p><i>eg Notes the accuracy of the information in Sources D and E, that there were problems with using Lister's methods, and uses own knowledge to explain that these came from carelessness in the application of the carbolic spray.</i></p> <p>OR Answer focuses on how reliable/representative/authoritative the source is.</p> <p><i>eg Notes that Source D is from a surgeon at the time who will have known how other surgeons were feeling and is reliable evidence that they felt Lister's methods didn't work in 1875. Source E has the benefit of hindsight and can gather statistical evidence that Lister's methods were successful and also that they didn't always work at the beginning.</i></p> <p>Maximum 5 marks if Level 2 criteria are met for only one source.</p> <p>Maximum 6 marks if answer does not use own knowledge of the context.</p>
3	8–10	<p>Judgement combines both elements of Level 2 to assess the reliability of the sources for the specific enquiry. Answer considers the reliability of the information, taking into account an aspect of its nature (ie how reliable/representative/authoritative/comprehensive it is).</p> <p><i>eg Considers the evidence from Source D that Lister's antiseptic</i></p>

		<p><i>method was 'not more successful' than ordinary methods in 1875 and notes that this may be reliable to some extent since the author exemplifies some of the surgeons who distrusted the ideas and were too impatient to use them properly, but notes also that the surgeon is not in a position to judge the longer-term success and that the use of carbolic acid was based on the germ theory which was correct and that it did actually reduce infection.</i></p> <p>Maximum 8 marks if own knowledge of the historical context is not explicitly used, or if Level 3 criteria are met for one source only.</p>
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Question Number		
5		<p>Source F suggests that the main reason for opposition to Lister’s methods was that surgeons could not believe that germs caused infection. How far do you agree with this interpretation? Explain your answer, using your own knowledge, Sources D, E and F, and any other sources you find helpful.</p> <p>Target: knowledge recall and selection, analysis of causation and key features of historical periods, reaching a judgement on representations and interpretations of history (AO1/AO2/AO3). Assessing QWC i-ii-iii: for the highest mark in a level all criteria for the level, including those for QWC, must be met. Spelling, punctuation and grammar (SPaG): up to 3 additional marks will be awarded for SPaG.</p>
Level	Mark	Descriptor
	0	No rewardable material.
1	1–4	<p>Generalised answer. EITHER Answer offers valid undeveloped comment to support or counter the interpretation, without direct support from sources or additional knowledge.</p> <p><i>eg 'People thought Lister’s methods didn’t work.'</i></p> <p>OR Selects details from the sources which support or counter the interpretation, but without direct linkage to the question.</p> <p><i>eg 'Source E says there was a need for more knowledge.'</i></p> <p>Writing communicates ideas using everyday language and shows some selection of material but the response lacks clarity and organisation. The candidate spells, punctuates and uses the rules of grammar with limited accuracy.</p>
QWC i-ii-iii		
2	5–8	<p>Supported answer, linking the interpretation to relevant detail. Answer offers a judgement which agrees with or counters the interpretation and links to relevant details from sources and/or additional knowledge.</p> <p><i>eg Selects details from Source D to support the interpretation, noting that surgeons did not care about the germ theory and returned to previous methods. Selects details from Sources E and F to explain that surgeons did not at first understand the idea of germs, including additional knowledge to explain that they joked about shutting the doors to keep 'Mr Lister’s germs out'.</i></p> <p>Writing communicates ideas using a limited range of historical terminology and showing some skills of selection and organisation of material, but passages lack clarity and organisation. The candidate spells, punctuates and uses some of the rules of grammar with general accuracy.</p>
QWC i-ii-iii		

<p>3</p> <p>QWC i-ii-iii</p>	<p>9–12</p>	<p>Developed evaluation, agreeing or disagreeing with the interpretation.</p> <p>Answer reasons from the evidence to consider the claim. At this level the answer will be unbalanced and only points of agreement or disagreement with the interpretation will be convincingly explored.</p> <p><i>eg Explains that the sources do suggest the main reason was doubts about the germ theory. Sources D, E and F all suggest that the problem was really connected to the germ theory. Source D says they did not care about it while E and F suggest they just did not believe it, and this was because it was difficult to understand that infection was caused by something so small which could not be seen. Adds from own knowledge that Lister was poor at explaining his work and the ideas behind it and that partly explained why they did not understand it. Also suggests that resistance to change contributed to their opposition: Source D implies they preferred the old methods and all three sources suggest surgeons were not prepared to accept new ideas linked to the germ theory.</i></p> <p>Maximum 10 marks for answers which do not include additional knowledge to support their argument.</p> <p>NB: No access to Level 3 for answers which do not use the sources.</p> <p>Writing communicates ideas using historical terms accurately and showing some direction and control in the organising of material. The candidate uses some of the rules of grammar appropriately and spells and punctuates with considerable accuracy, although some spelling errors may still be found.</p>
<p>4</p>	<p>13–16</p>	<p>Sustained argument and evaluation, reviewing alternative views before giving a balanced judgement on the interpretation.</p> <p>Answer considers the evidence which supports the interpretation that surgeons' doubts about the germ theory was the prime reason, and also considers evidence which suggests other reasons were more significant. The evaluation of the interpretation is supported by precisely-selected evidence from the sources and additional knowledge.</p> <p><i>eg Weighs the evidence of doubts about the germ theory as the prime cause. May use Source D to challenge the interpretation, arguing that it does not reject the germ theory and the surgeons concerned were prepared to try the antiseptic method and that the prime concern in D appears to be about practical issues, which is confirmed by Source E. Or may use Source D to confirm the view since it gives evidence of ready rejection. Uses sources and own knowledge to suggest that resistance to change was a more significant reason for opposition to Lister since it was the underlying reason for unwillingness to accept both the germ theory and the new antiseptic methods. Explores indicators of resistance to change (rejection of and resistance to the germ theory, resistance to the careful operation of the antiseptic methods, the continuing insistence on speed in</i></p>

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QWC i-ii-iii		<p><i>operations) and weighs them against other reasons (for example practical problems of implementation, carbolic acid as a physical irritant, or the mistaken impression of its ineffectiveness due to infections caused by practitioners who placed a lower premium on cleanliness).</i></p> <p>Reserve 15–16 marks for answers which also take into account the strength of the evidence from the provided sources when coming to an overall conclusion.</p> <p>NB: No access to Level 4 for answers which do not include additional knowledge.</p> <p>Writing communicates ideas effectively, using a range of precisely-selected historical terms and organising information clearly and coherently. The candidate spells, punctuates and uses the rules of grammar with considerable accuracy, although some spelling errors may still be found.</p>
		Marks for SPaG
Performance	Mark	Descriptor
	0	Errors severely hinder the meaning of the response or candidates do not spell, punctuate or use the rules of grammar within the context of the demands of the question.
Threshold	1	Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.
Intermediate	2	Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
High	3	Candidates spell, punctuate and use the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.