

Examiners' Report  
June 2013

GCSE History 5HB03 3A

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## Introduction

This was the eighth series of this Schools History Project Source Enquiry on the transformation of surgery, c1845-c1918. The area of the enquiry was the development of blood transfusions. Its principal focus was whether the First World War was the main reason why progress was made in blood transfusions in the early twentieth century.

Most candidates were able to demonstrate at least some knowledge and understanding of the topic. Most candidates were able to produce responses that were worth at least some credit. There was increasing evidence that more candidates were able to attempt all questions. As with earlier series, Level 3 of question 3 and Level 4 of question 5 proved more challenging, especially the latter on this topic. Additional recalled knowledge is more evident in questions focusing on pain or infection. Often additional recalled knowledge was generalised comment rather than focused understanding.

There was continuing evidence that centres are responding to comments in earlier reports. Certainly there were fewer papers that presented blank responses to a question. Most commonly these were concentrated on question 5. Many candidates however, struggled to demonstrate effective cross referencing using the sources in answers to question 3. Many who did not, just trawled through each source in turn, failing either to cross reference or focus on the question and often both. Fewer deployed understanding of the value of source content alongside relevant comment on its provenance in evaluating source utility in question 4. Too many of the answers that commented on source utility focused on simplistic learnt responses of limited historical validity.

Timing was generally less of a problem for candidates than in earlier series. However, some candidates produced answers that were overlong in response to questions 1 and 2 which left them with difficulties completing developed answers to questions 3, 4 and 5. Responses often had little reference to the mark total for the question.

There were considerably fewer responses written in the wrong sections of the answer book. This is almost always confined to question 4 responses that are continued on the last page of question 3. Centres should ensure that candidates are familiar with the paper before the exam takes place to help avoid this. There were far too many basic and simplistic responses regarding the value and utility of sources to questions such as 1 and 5 that do not require it. Too many sources were dismissed as having no value because of bias or because the historian was not there.

## **Question 1**

Many candidates could make a solid inference about the inability to store blood but could not find anything else to support this relying on the general inference mentioned earlier. For this reason, many able candidates were not able to access the top mark.

Advice for centres would be to keep up the good work on the basic skill but guide students to focus on the precise question set. This question was generally completed well, with the majority of candidates reaching level 3. Inferences made were typically well supported; candidates referred directly to the image and the evidence they selected was usually relevant and precise. Whilst the use of evidence was good, the inferences made were weak; whilst valid, they tended to be very vague such as 'it was a new procedure' or 'people didn't know what they were doing'. These weaker inferences tended to be gathered from the evidence of there being many people in the photo – candidates showed an awareness that this was significant but struggled to put together a substantial inference. On the point of storage candidates proved much more competent, the majority of answers identifying storage as an issue due to there being a direct person-to-person transfusion being shown in the image.

Answers that followed a 'point, evidence, explain' structure tended to be clear and well developed. It is worth noting however that many candidates attempted to make 3, 4 or even 5 inferences in their answers and it was usually these candidates who structured their answers well and achieved full marks with the first 2 inferences.

There were several references to hygiene, with some answers focusing on only this. In this question candidates' inferences tended to be too vague, such as 'hygiene is an issue' or 'they didn't understand hygiene'. There were few who went so far as to say the situation could have led to infection and with these inferences evidence tended to be weak too, referring mainly to the many people or jugs and buckets.

Overall many candidates consistently pulled out many relevant items from the source. Of those who attained Level 2 the necessity of the donor being present for a direct transfusion was almost always mentioned, and for those at Level 3, that this meant there was no blood storage method available was almost always mentioned. Another consistently well done facet was the presence of many doctors and nurses, which was put down to both the complexity of the operation and the opportunity for education and training about transfusions for Level 3. Making connections on what was directly visual in the source was generally good.

The problems came when students tried to go beyond what was immediately apparent. By far the largest misconception were students who said that the source tells us that blood groups had yet to be discovered in some form which it does not in any way. Perhaps many students, having revised this topic, were naturally keen to get some of their knowledge down on paper – Landsteiner or just the later discovery of blood groups was brought up many times in this context.

**Answer ALL questions.**

Look carefully at the background information and Sources A to G in the Sources Booklet and then answer Questions 1 to 5 which follow.

**1 Study Source A.**

What can you learn from Source A about blood transfusions in the late nineteenth century?

(6)

From Source A, I can learn that ~~the~~ with blood transfusions in the late nineteenth century, the blood donor had to be present in order for the patient to ~~not~~ receive the blood as shown in the source. This would mean that there was no way to store blood at this time. ~~although~~ Also there were a lot of people present in this source which could mean that the procedure was complex or it was often used as a learning opportunity for nurses and medical students as shown in the source to be observing what was happening.

There are also a lot of bowls and jugs ~~to~~ shown in the source which may mean that there was a problem with blood loss and that may also be why there were a lot of people in the source, they were there to help if needed.



**ResultsPlus**  
Examiner Comments

This is a concise answer that makes several inferences and supports them with reference to the source. It is a solid Level 3 response.



**ResultsPlus**  
Examiner Tip

Two inferences with support from the source can get maximum marks.

Do not answer using your own knowledge or make comments on source reliability.

Make sure you know the focus of the question asked.

## Question 2

Answers were primarily content-driven and took the majority of candidates into Level 2. Some, however, found it difficult to extract an 'impression' from the source. Very weak candidates paraphrased the content of the source in an attempt to give an impression, eg 'the impression Blundell has tried to give is that transfusions were rare', 'transfusions were only needed when the patient was in danger of dying', 'transfusions were risky but not fatal', etc. Amongst the candidates who offered a valid impression, several only stated that Blundell was trying to give a 'good / negative / bad / biased' impression. Stronger candidates referred to Blundell giving a 'mixed impression' or 'being uncertain about transfusions', also recognising that there was 'very little understanding of transfusions at the time'. Most candidates provided adequate support for their statements, but some ended up paraphrasing the entire source rather than extracting selected quotes, while others provided support taken from ARK. Although many candidates made good efforts to explain / analyse the source, some reached only low Level 3, as they either presented their answer in the form of a list rather than a coherent text, or concentrated on only one or two aspects of the source.

Statements regarding the nature of the source were rare and usually closely related to the caption. Here, the well-known misconceptions regarding reliability cropped up: 'the text must be reliable, as it was published in the *Lancet*', etc.

The vast majority understood how to attempt this generic type of question, especially demonstrating an understanding of how to elicit 'inference/s' from the source. However, too many candidates were unable to move beyond Level 2 because they used a simple formulaic approach, and they failed to advance beyond 'listing' content from Source B or 'telling' the reader what Source B 'said' as a means of revealing Blundell's impressions. Additionally, Level 2 and Level 3 answers were overwhelmingly reliant upon use of content rather than the nature of the source, indicating that candidates might be better prepared for answering this and other questions on the paper (especially at the highest Levels), if they developed a better understanding of the value of 'provenance' when evaluating a source. A simple aide memoire or two such as: 'Who wrote this and why?' and 'What factors might have influenced the way in which the author wrote?' might be part of a basic repertoire of diagnostic questioning when addressing the issue of provenance.

'Listing' or simply 'telling' what a source says could be avoided in a number of ways. Candidates could be encouraged more to read a source and to think – 'What is its overall message?' or 'What over-arching point' or 'What singular Big Point? best sums up the author's view?' Then more candidates might move in the direction of seeking to elicit Blundell's general impression and provide a 'balanced' view. Accordingly, candidates should be encouraged to achieve this, by demoting the process of highlighting an author's 'key points' to becoming a secondary process - to that of defining Blundell's 'Big Point.' Factual points (Little Points), are then seen as the evidence for being able to claim the author's over-arching view, and they assume a secondary 'supportive' role in the thinking process. Too many candidates stay at Level 2 because they think that teasing out factual detail is logically prior to everything else.

Candidates might be better prepared if they developed a better understanding of the meaning of the word 'portrayal,' by being encouraged to engage in a thinking process based on simple questions - along the lines of: 'What is Blundell trying to achieve by saying what he says?' In addition, summon key evidence for their assertion by saying, 'I think this because...'. Analysis has then happened.

When candidates sought to identify multiple impressions, the majority inevitably listed factual details from Source B. In order to avoid this, they might be better advised to identify one overall message, first in the process. This would be seen by them as logically prior to marshalling the factual evidence identified from the source which justifies the claim behind this overall message.

However, a great number of candidates were able to focus on the impression given by the source, either positive or negative, or in some cases both. Moreover, they were able to pick up on the subtleties of meaning in Blundell's words to give very precise comments on impression backed up by specific quotes from the source. Often the most successful answers engaged with the idea of impression from the outset and then went on to give very specific examples. Examiners were also impressed by some candidates' precise descriptions of Blundell's language used to explain impression eg 'a strong impression of subtlety and caution as well as carefulness and respect'.

Fewer candidates examined the nature of the source. Those who did mention it were sometimes side tracked by a discussion of reliability which did not focus on the question. However, one or two were able to demonstrate how the origin of the source contributed to impression by talking about Blundell's efforts to persuade fellow members of the medical profession as to the necessity of transfusions, or warn them about the dangers of it.

## 2 Study Source B.

What impression has Dr Blundell tried to give about blood transfusions in the first half of the nineteenth century? Explain your answer, using Source B.

(8)

Dr Blundell has given a two sided impression in his article on blood transfusion published in the *Lancet*.

Firstly, Dr Blundell states 'They are needed otherwise the patient will die' making blood transfusion seem life saving and the only hope for 'some' patients. This is a positive association and connotation made with blood transfusion the idea that they are needed as it is a must. The Dr Blundell further emphasises his positive impression with the statement he makes saying 'transfusion can be used to replace larger blood losses even when the patient is not in danger of dying' at this point it seems Dr. Blundell cannot conceal his enthusiasm about what an excellent revolution in medicine this is. Saving lives and helping to recover other patients.



ALSO Dr. Blundell brings in evidences, <sup>though his reasons</sup> that there is no clear evidence that transfusion has been 'faked'. This sort of factual statistics brought in to push his opinions on us make it feel as if he is persuading us blood transfusion is a good idea. All of this adds to give a positive image and impression.

However, on the <sup>other</sup> hand there is still a possibility which brings all the positivity down and he also adds: 'Perhaps we should only use transfusions when it seems the only hope'. This shows Dr. Blundell's uncertainty <sup>and the way it is</sup>. Also the emotive language used to <sup>placate</sup> the last few words gives and uncertain feel and impression 'we throw blood into their veins.' Perhaps the reasons for the earlier positive impression was because he was the first successful surgeon to perform blood transfusion. So Dr. Blundell wanted to keep the image of success connected to him by writing an 'article' which we all know can be used as propaganda or <sup>Barbaric added exaggerations</sup>.



### ResultsPlus Examiner Comments

This is a good Level 3 response that clearly grasps the impression Blundell tried to give. Good use is made of the source in support.



### ResultsPlus Examiner Tip

Use information from the source to indicate how they create the impression or support the message.

Comment on relevant details of the language used or images created.

Be aware of the difference between how an image is created and what impression / message is given.



### **Question 3**

The key to this question is cross referencing. Candidates are not able to access Level 3 without it, and very few answers even attempted it, suggesting candidates are not at all comfortable with what this question is really asking of them or how to achieve it. The majority of candidates are taking the sources one at a time (eg 'Source B says... Source C says... Source D says...'), even extending this to their conclusion (eg 'Overall Source B says... Source C says... Source D says...'). Merely summing up what has already been said in a conclusion does not count as cross referencing.

Candidates are also often using connectives while still in Level 2, which suggests they are getting good at technique, but still do not have the actual skill of cross referencing. This is a question that would benefit from repeated practise with teachers, because there is a significant portion of marks available (10) and the majority of answers stay at Level 2.

The same is true of some lovely detailed answers which thoroughly deconstruct the content and the NOP of the sources in quite a sophisticated way, but fail to cross reference.

Some candidates attempted to cross reference each source with the question. This was not the most successful approach, and candidates should focus instead on cross referencing the sources with each other.

The majority of Level 2 answers on this question were descriptive, whereas Level 3 answers were using the sources to support an argument they were making. This is a skill which centres would benefit from teaching their candidates, as it will help candidates access higher levels in not only this question, but also question 5.

Where only NOP or content was addressed, it was nearly always content that candidates covered. Candidates are clearly still very unsure how to effectively deal with NOP in a way that goes beyond simple statements of reliability based on primary/secondary evidence being reliable/not. It would benefit candidates on this question, and later questions, to be made more familiar with how to effectively look at the reliability of a source.

Many candidates found making links between the content of the sources in order to provide a clear cross-reference challenging. Answers often followed a formulaic structure, plodding through the sources, identifying elements of support and/or challenge. Candidates needed to identify areas of support and then challenge by linking/combining elements of the content of Sources B, C, and D together to produce a clear, focused answer. Using phrases such as 'which agrees with' or 'which supports the opinion' and judgement phrases such as 'to an extent' or 'partially agrees with/supports' would be helpful. Candidates need to realise that in order to achieve high marks for this question less is more. Indeed many answers were often too long, losing focus on the thrust of the question. The best answers were succinct and used the words of the question throughout in order to ensure tight focus. Comments about nature were often confined to the conclusion. Candidates need to be more thoughtful when using the nature of the source to cross reference, thinking more about how the nature of the source could help to create support, or challenge the assertion in the question. Candidates should ensure that they read the sources, and their origin, carefully before beginning their answers. For example, Source D was written about the work of Karl Landsteiner, not by him as many candidates asserted. Candidates often seem reluctant to use the information that they have to provide a clear conclusion to their answer that actually answers the question. Ideally candidates should aim to provide a clear conclusion that uses the content and the nature of the sources to answer the question of 'how far.'

### 3 Study Sources B, C and D.

How far do Sources B, C and D suggest that surgeons' use of blood transfusions was dangerous before 1909? Explain your answer, using these sources.

(10)

I think that Sources D and C go quite far in suggesting surgeons' use of blood transfusions was dangerous before 1909 yet I think that Source B does not go as far.

Source D ~~is~~ tells of Landsteiner's discovery where "he pointed out the problems" but no one listened to him. Likewise, in Source C doctors "believed that transfusions were dangerous" yet no body listened enough to actively do something about it. Source D shows how ~~an~~ a vital discovery "received little attention" and Source C tells of ~~the~~ arguments. ~~The facts that~~ Source C and D both show the dangers of blood transfusions and how the arguments and even discoveries were put aside show how the dangers of blood transfusions were not just from the blood but from the stubborn attitudes and beliefs of people from the time.

Source B has quite a mixed view of the dangers of blood transfusions, which in some ways similar to Source C. However, I think these are more pronounced in Source B. DR Blundell does not see the danger with them but suggests to limit the use of them. I think this is quite a noncommittal view.

Source B is an article on blood transfusions by DR Blundell and as his views were in The Lancet,

(Question 3 continued)

a leading medical journal his views were bound to be taken seriously. This makes source B reliable. Source C, published in 2006 from a book would be designed to educate people interested in that particular subject so therefore very reliable. Source D, a speech by Landsteiner himself in 1930 when awarded his Nobel Prize. This would be reliable too as Landsteiner was a respected surgeon being awarded for his speciality: blood groups and transfusions. It is reliable.

To conclude, sources D and C go quite far into suggesting how dangerous the use of blood transfusion were before 1909 whereas, with mixed opinions, source B does not go as far as the other two sources.



### ResultsPlus Examiner Comments

This is a good response that combines effective cross-referencing and both nature and content to make a balanced assessment of the suggestion. This is a Level 3 response.



### ResultsPlus Examiner Tip

- Do not just describe each source in turn.
- Cross reference between the three sources not just the question posed.
- Look at the overall impression provided by all three sources.

## Question 4

For question 4, the first issue is an inverse of what might be expected would be the most pressing issue, candidates entirely looking at content and disregarding nature. However some answers went into very great detail about the author and provenance of the source, and therefore gave an excellent assessment of how far we should trust it, but completely neglected to look at the content of the source itself, and so were stuck at 6 marks. This occurred, when even a bit of source content on both sides would have sent them straight to the Level 3 key point. Clearly many teachers are rightly explaining to their students the importance of looking at the nature of a source, how that influences the content, and then how we as historians should utilise it. Perhaps candidates need reminding that whilst this is very good, they still need to look at what is being said in the source itself. Some candidates 'put the cart before the horse' by saying that as Source E is just one man's potentially exaggerated experiences, we cannot extrapolate from that to draw a judgement about surgical conditions in the entire war effort, without saying what he is potentially exaggerating about. From the quality of the nature analysis in these answers they were likely to be able students, who got carried away in trying to demonstrate their great source critiquing abilities as historians and consequently forgot to look at the source itself.

That said, lack of discussion of the nature of source material, or poorly done discussion when it was done, was still a significant issue. Many candidates simply wrote things along the lines of 'E is a primary account and therefore unreliable' or 'F is from a scientific journal and therefore reliable'. This does not address why this makes the source reliable or unreliable. Candidates need to know that if they say E is less reliable because it is a primary account, then they must clarify this by saying this is because it is the viewpoint of one person, and therefore you cannot extrapolate from that a conclusion about blood transfusions during the entire War. Aside from this, overall analysis of content was relatively well-done, with relevant quotations from the sources or paraphrasing most of the time – the issue was in not enough nature, or too much.

Candidates are clearly struggling with both technique and time on this question, as there were a number of blank, Level 1, and low Level 2 answers, more so than on the other questions. As this question is worth 10 marks, it may benefit centres to work with candidates on finding a technique for approaching this question that works for them.

The mark scheme for this question requires students to address the content and the NOP of both sources to Level 2 standard for Level 3. Candidates are really struggling to meet this requirement, and most often fall down on their ability to address the NOP of both sources. It is here we most often see Level 1 type answers (primary=good as was there; secondary=good as has used many sources), which keep candidates in Level 2. While a number of good answers are able to address the content of both, and the NOP of one, examining the NOP of the second source often seems just beyond their capability.

For candidates who are able to achieve Level 3, the integration of content and NOP required for 10 marks seems beyond reach of many. It would benefit these higher ability candidates to move beyond the formulaic answer of a paragraph on the content of each and another paragraph on the NOP of each and move towards a more fluent and integrated essay style of writing on this question.

Some high level candidates were able to pick out the use of language in Source E as having definite implications for the reliability of the source. This sort of high level reasoning and analysis should be encouraged among higher ability pupils to help them do well on this question, as well as others on this paper.

When discussing NOP of Source E many students referred to the fact that it was part of a diary entry from an army surgeon in World War One and felt that no further comment was required apart from 'so it must be reliable'. Others dismissed it as unreliable because it was one man's view and so must be biased. However, there were some excellent answers which

recognised that the opinion of an army surgeon on the front line would be valuable both because he was writing from his own professional experience and because he was recording his thoughts in a personal diary where 'he would have no reason to lie'. Comments on NOP of Source F varied from assertions that it was written a long time after the war 'so we don't know if the writer was alive then' and comments about secondary sources being unreliable to a focus on the fact that the article appeared in a scientific journal and was likely to have been very well researched and accurate because: 'The Biomedical Scientist would be a respected publication so would make sure that the facts appearing in it were correct'.

A number of high Level 2 answers left a lot of questions when read through, which, if answered, could lead to the candidate making Level 3 (eg 'E is a diary and could therefore be problematic', leaving the question of why would this make it problematic?). If candidates could be encouraged to search their work for these it may help them move answers from a high Level 2 to a Level 3 response.



#### 4 Study Sources E and F.

Which of Sources E or F is more useful to the historian who is investigating the use of blood transfusions during the First World War? Explain your answer, using Sources E and F.

(15)  
(10)

~~Source~~ source F is more impo useful to <sup>investigating</sup> the historian ~~investigation~~ the use of blood transfusions, than source E, because of its nature, origin and purpose.

source E is useful to an historian as it talks about "blood everywhere" and "streams of blood dripping from the stretchers". This tells the reader that during the first world war, blood loss was an extreme problem. At the end of the source, Robertson says, he "could only transfuse an occasional patient" and that "majority ~~ca~~ had to take their chance. This backs up the idea that blood loss was a problem, because transfusions were very rarely taken place. This is useful to an historian investigating the use of blood transfusions during the first world war.

source F is ~~ats~~ useful as it says how "transfusions was only possible



(Question 4 continued) using specially treated blood" and it was only ~~so~~ successful by "direct person-to-person techniques".

This also makes the source useful to the historian. However, this source is more useful for many reasons.

Firstly, source E is a person account of the world war one. Although this makes it reliable, it only demonstrates a small part of the transformation of surgery. ~~As~~ This is because, the source only includes one story, so the historian may not know whether other experiences with blood loss were more successful.

Also it only gives information on that one time, rather than of the improvement in ~~blood~~ controlling blood loss.

~~This means~~, in contrary, source ~~E~~<sup>F</sup> is an article which is "a brief history of blood & transfusions". This means, the author has collected evidence from many sources\* and combined them to present a brief overview of the evolving of blood transfusions. Also, the source includes how "blood transfusions advanced with the outbreak of the First

(Question 4 continued) "World War" and the "knowledge of matching different blood groups". This makes ~~the~~ source F useful for a historian in finding out about a broader view of blood transfusions during blood loss.

In conclusion, source F is more useful than source E, as it contains more information, isn't one-sided, and has the advantage of hindsight hind sight.  
\* as it was written in 2005.



**ResultsPlus**

**Examiner Comments**

This response successfully combines comments on both content and nature to produce a logical judgement of relative utility. This is a Level 3 answer.



**ResultsPlus**

**Examiner Tip**

Don't just describe what the sources show, comment on their nature, origin and purpose.

Make sure you relate your answer to that set in the question.

It is better to give strengths and limitations of sources rather than simply stating they are good and reliable.

## Question 5

Similar to previous years, most candidates settled in Level 1 or Level 2 and very few achieved Level 4. The failure to enter Level 4 usually resulted from an underdeveloped argument and / or structure. It might be interesting to note that of the candidates who reached Level 4, few attempted to combine nature and content – Level 4/14 was therefore often the highest mark awarded. Most candidates who remained in Level 1 tended to paraphrase the content of the source(s), generally without linking it properly to the question focus and failing to reach a judgement. Others disregarded the sources altogether, producing very general statements about injuries sustained in the war.

The majority of candidates provided a supported answer, thus entering Level 2. Some candidates seemed to have struggled with the question focus, as they examined whether the sources agreed / disagreed with the hypothesis, rather than stating their own opinion. Most, however, either fully agreed or fully disagreed with the hypothesis and supported their argument by going through the sources mechanically. Thus, a lot of answers were extremely descriptive of the sources, as candidates failed to extract relevant details and quotes. Many attempted to use all three sources, although some referred to them only indirectly (ie without actually mentioning the source). The most popular of the three required sources was undoubtedly D, the most difficult (and the most frequently omitted) one G. In addition to describing the general conditions for wounded soldiers and doctors during World War I (and sometimes war in general), ARK was usually concerned with discoveries regarding the storage and refrigeration of blood and the establishment of blood banks. Weak candidates still introduced ARK with the phrase 'from my own knowledge I know...'

Level 3 candidates introduced their answer by qualifying their level of agreement ('I agree to a certain / extent / I don't agree very far'). This was followed by an analysis of sources and ARK to identify elements of support and challenge. While some Level 2 candidates hinted at the importance of factors other than the war, Level 3 candidates identified them from the sources. For example, not only did many realise that Landsteiner's work predated World War I by several years, but they were also able to link his discoveries to his 'individual genius'. Similarly, parallels were drawn between the development of technology and the possibility of storing blood in a fridge. Although these answers often contained some very valid points, very few candidates managed to present them in the form of a sustained argument required to enter Level 4.

The sources were mostly approached via their contents, very few statements regarding nature went beyond the content of the captions. Interestingly, a large number of candidates who attempted to comment on the nature of Source G automatically assumed that the drawing was published in 1915 – ie had clearly failed to read the caption properly. Many statements regarding the nature of the sources read like 'afterthoughts' – often squeezed into the conclusion – and were frequently simple copies of the captions or 'learned answers'. Here again, a large number of candidates fell into the 'reliability trap' – 'it is a scientific article, so must be reliable' or 'it's a speech about his achievements, so they wouldn't say anything negative', etc.

### SPaG

The most frequent mark awarded for SPaG was 2. SPaG 3 went usually alongside a very well-structured answer and good argument.

**\*5 Study Sources D, F and G and use your own knowledge.**

**Spelling, punctuation and grammar will be assessed in this question.**

'The First World War (1914–18) was the main reason why so much progress was made in the use of blood transfusions in the early twentieth century.'

How far do you agree with this statement? Use your own knowledge, Sources D, F and G and any other sources you find helpful to explain your answer.

(16)

I partly agree with this statement as while I believe that the First World War was beneficial to the development of blood transfusions, its main purpose <sup>in development</sup> was as a motivator for other factors.

It is tautology to say that the First World War was an important factor in <sup>medical</sup> progress. The requirement ~~of~~ for soldiers meant that casualties had to be minimal, which led to greater pressure for the government to try and use alternative, more effective methods of treatment for the wounded. This led to increased government funding to research teams, with the aim of refining blood transfusion for use in war.

The sheer number of casualties also meant that more people were receiving blood transfusions than ever before. Recent advancements, such as Landsteiner's discovery of 3 blood groups in 1901, improved the success rate of the transfusions. This wide use and proven effectiveness led to many skeptics and critics of the procedure to change their minds. This helped to popularise blood transfusion as a practise.

However, I believe that war served as a motivator for other factors, as well as other factors being of equal, if not greater importance. It was government funding which allowed researchers to conduct new research and experiments; this allowed for <sup>the</sup> development of <sup>easily</sup> transportable blood for the war effort to be hastened. Without government action, it is likely that development would have taken longer.

Another important factor was individual genius. The success rate of blood transfusions was very low prior to Landsteiner's discovery. Without this knowledge, blood transfusion would likely <sup>not</sup> have been used as widely during the war, due to the low success rate. In addition, individual genius from Rois, Turner and Lewisohn in the development of non-clothing, transportable blood bags was the one of the main reasons why so much progress was made, as without their discoveries blood transfusions would have been ~~was~~ far more impractical during the war.

Landsteiner's discoveries also lead to an important change in public opinion; blood transfusions appeared viable due to the discovery of blood groups. This lead many to support the use of them during the war. This change in the public opinion of the effectiveness of transfusions lead to the government funding it.

Lastly, technological advancements allowed for progress to be made.

Robert Listers' 1000x telescope allowed for the effects of sodium nitrate and glucose on blood to be more easily developed; the development of the automobile allowed the transport of blood to be made easier, ~~more~~ and refrigeration allowed for blood to be stored for longer periods of time. This allowed blood transfusions to be more widely used in the

In conclusion, while I agree that the First World War allowed for ~~many~~ wider use of transfusions, I believe that it served mainly as a motivator for other factors, being technological advancement, <sup>and</sup> government funding.



**ResultsPlus**

**Examiner Comments**

This is a good Level 4 response that produces a sustained argument, making effective use of both sources and additional recalled knowledge (ARK).



**ResultsPlus**

**Examiner Tip**

Make sure you have enough time to do justice to a question which now has SPaG marks.

Analyse the question, plan your answer, review the sources required and add your own ARK on the topic.

## **Paper Summary**

Based on their performance in this paper, candidates are offered the following advice:

- make sure you attempt all five questions, especially question 5
- spend more time and thought on question 5, which has many more marks than earlier questions
- remember to make two inferences and support them using the source in question 1
- make sure you use all three sources and cross reference them in question 3
- comment on both sources in response to question 4, using source content and nature.



## **Grade Boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>

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