

KS4 Chest pain

**1. Details of the teacher**

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| Name: | Date: | Time: | Class: |

**2. Topic overview**

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| **Suggested timing for session (excluding optional activities) is 45 minutes.**  **Teaching staff notes:**  \*Please ensure all students are comfortable with content of this topic and will not be adversely affected.  Delivery of this session must ensure that all students maintain the safety of themselves and others before administering any first aid. By the end of the session, students must be able to identify when a casualty may require an assessment and even possible life support if their condition was to deteriorate.  The actions within the topic should include looking after a casualty and reassuring them, seeking medical help, if required, and administration of basic first aid skills. Students should gain a basic understanding of the function of the heart and the causes of chest pain.  Before delivering any first aid skills, teachers must feel confident that they have the relevant knowledge and competency to safely teach techniques.  It is advised that students are taught the topic on basic life support skills prior to this session. A casualty with chest pain could deteriorate and basic life support may be the appropriate action required. (see recommended KS4 first aid pathway)  **Session timings**: Recommended timings for this topic are identified as an hour in duration, however delivery time can vary according to group size and the learner’s prior subject knowledge. There are a range of optional activities that are excluded from these timings.  The optional content may be used within session to extend the duration or even as a separate learning session aimed at recap or extend learning.  Approximate timing guides are provided for each optional activity to assist with planning and preparation of sessions.  **For this session learning materials will be:**   * PowerPoint presentation * A4 Paper * Pens * Coloured pens for pupils to amend own work * See optional activities for specific resources required for each activity |

**3. Key words**

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| * **atrium** * **ventricle** * **respiratory rate** * **heart rate** * **pulse** * **DRsABC** * **CPR** | * **resuscitate** * **circulation** * **cardiac arrest** * **angina** * **heart attack** * **cardiovascular** |  |

**4. Learning outcomes**

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| **By the end of the lesson, students will be able to:**   * Recognise when somebody is having chest pain * Demonstrate first aid techniques that may help a casualty who has chest pain * Get help when necessary for a casualty who has chest pain |

**5. Details of activities and resources required**

Note: Should you have less than an hour available, you may choose to select key activities from the lesson plan. As a minimum, students should complete the First Aid Steps activity at the start and end of the lesson to monitor progress and have the chance to complete at least one ‘Your Turn’ activity with a video to provide guidance on how to perform First Aid techniques.”

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| **Introduction** | |
| **Activity** | **Resources required** |
| * Use accompanying PowerPoint presentation | Chest pain |
| **First aid steps: (5 min)**   * Ask the students to use their existing first aid knowledge to see if they can complete any of the missing steps. Students should write in the boxes any actions that they feel would fit into a sequence of events that would allow them to help someone who has chest pain. * At end of session you can revisit this and see if students can make any amends or add further information (using a different colour pen) | Slide 1 |
| * Explain the learning outcomes of the session * Establish ground rules for the session, using additional advice sheet provided | Slide 4 |

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| **Main Input** | |
| **Activity** | **Resources required** |
| **Casualty care:**   * Brief discussion using points on slide. Ensure that students are aware that they need to keep the casualty calm and safe and call for help. They should obtain relevant information to give call handler as much relevant info as possible | Slide 5 |
| **The heart: (10 min)**   * Use the slide to explain the basic anatomy and features of the heart. Explain that if we get injured or unwell it could affect the function of the heart. For example, an injury to the chest area could cause damage to the heart or surrounding area. There may be a long-term condition affecting the heart e.g. Angina * Chest pain can be a serious condition and help needs to be called for if necessary. A casualty with chest pain may need to go to hospital so that they can receive the correct medical treatment. Calling for help is something that is easy to do but has the potential to make a huge difference * Use worksheet A48 to research the structure and function of the heart. S and C can involve students identifying factors that may increase heart rate and/ or how to keep hearts healthy. | Slide 6 |
| **Cardiac maths: (5 min)**   * Using the information on the slide can the class calculate the missing information? This can be completed as an individual task or a team game. As an extension can the students offer/calculate any further cardiac maths? * Answer - 6720 a day and 2,452,800 a year. | Slide 7 |
| **The heart:**   * Inform the students the difference between a cardiac arrest and chest pain * Explain that a cardiac arrest means that the heart is not working properly and blood flow around the body has ceased. Students can remember this by knowing that arrest means stop. * Chest pain can be a heart attack or angina, the pain is caused by lack of oxygen to the cardiac muscle. This can be due to a blockage in the arteries or vessels that supply the heart with blood (and therefore oxygen) or a narrowing of the vessels. Also, to note is that sometimes chest pain can precede a cardiac arrest and some heart attacks do not even present with a chest pain. Pain can also be present in the left arm (or either arms), neck, back, abdomen and the jaw of a casualty that is having a heart attack | Slide 8 |
| **Video: (5 min)**   * Explain that students should watch the videos about chest pain, and then be prepared to use information from the video afterwards so watch carefully | Slide 9 |
| **Your turn chest pain and your turn heart attack: (15 min)**   * You could print out your turn sheets and give students a scenario to manage and administer first aid skills * The teacher should demonstrate the key steps to deliver first aid to a casualty that is having, or potentially having, a heart attack. Use the key steps to guide your actions or alternatively let the students direct your actions as you follow their instructions * Use key steps to simulate looking after a casualty. Ensure that they remember to firstly make the area safe by removing any hazards to themselves or others, reassure the casualty and use decision making skills and rationale to decide if their casualty needs to seek medical attention. Remember if the casualty became unresponsive at any point then a primary survey must be conducted, if not breathing, then CPR must commence * Teacher to observe and feedback to students. As an option, the student could use peer assessment and score their partners * The casualty must be prevented from eating and drinking as their body is already under stress and digesting food/drink will put additional strain on heart. Also, if they are going to hospital, they may receive treatment that requires them NOT to have eaten or drank (operation etc.) * Each of the key steps can be ticked off on a print out of the sheet to show when competent. * Scenario cards are available which the teacher can use to make the practical activity relevant in a certain context for students. | Slides 10-11 |
| **Complete the sentences: (5 min)**   * Can students complete the sentences on the slide and provide rationales for their answers? * Answers are as follows: 1. left arm/jaw/back 2. be grey/pale 3. anxious/unwell/sick 4. rapid (anxiety) | Slide 12 |
| **Casualty Care:**   * This slide offers an opportunity for students to discuss how casualty care skills link to this topic. This allows for contrast and comparison against other topics, whilst also showing how topics are linked. | Slide 13 |
| **Check my learning:**   * Using the learning outcomes on the slide, ask students to self-assess their competence and confidence when dealing with a casualty who has chest pain * Students could revisit starter activity to assess progress made against baseline assessment. | Slide 14-15 |

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| **Optional Activity** | |
| **Activity** | **Resources required** |
| **The circulatory system:**   * Students can now spend time creating their own circulatory system. The class can use the resources provided or they can be creative and draw/make their own body and organs. The key part is that students demonstrate the flow of blood both to and from the heart * There are two options of worksheets A36 or A49 * Students can be allowed access to research within this task * Note activity A36 also appears in the topic of bleeding and shock | Slide 18 |
| **Research task:**   * Students should now be able to label several areas of a human heart. Use the unlabeled diagram provided * Students should then be allowed time to conduct their own research. They may want to include the heart and its function within the body * S and C: could include statistics relating to heart disease within the UK, recommendation and advice for preventing heart disease | Slide 6/19/20 |
| **Your turn: complete the sheet:**   * Can the class confirm the missing information from your turn sheet? | Slide 21 |

**6. Check learning**

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| * Check that the learning outcomes have been met from slide 15 * Teacher to ask open questions about safety * Use key words given in session plan. Can students put these words into sentences? * What have you learned today? * Score yourself: how confident would you now be if you came across someone that was having chest pain? * Revisit your starter activity. Using a different colour pen, can students now complete this task more accurately than they could before? |

**7. Details of assessment for learning**

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| * Shared learning objectives * Peer assessment * Written feedback | * Questions/answers * Self-assessment * Reflection/evaluation | * Extended questions/answers * Oral feedback * Group work |

**8. Teacher notes**

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| **Use this space for differentiation notes, the role of any classroom support, evaluation notes, etc.** |

**9. Curriculum links**

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