

## **Problem on the Catwalk (Phosphate)**

### **Instructor's Copy**

Behavioral Research Aspects of Safety  
and Health Group (BRASH)  
Institute for Mining and Minerals Research (IMMR)  
University of Kentucky, Lexington, Kentucky<sup>1</sup>

---

<sup>1</sup> This exercise was developed and field tested under U. S. Bureau of Mines research Contract No. H0348040. Information about the design and characteristics of the exercise and the field test results are available in the project technical reports filed with the Bureau of Mines Research Center in Pittsburgh, PA. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies or recommendations of the Interior Department's Bureau of Mines or the U. S. Government.

## **Contents**

Introduction	3
Exercise summary	3
How to use this exercise	4
Performance objectives	5
Master answer sheet	6
Instructor's discussion notes	9
References	11
Scoring key	12
Appendices	
Appendix A: Problem booklet (duplicate this copy for use in class)	
Appendix B: Answer sheet blank (print the invisible ink answers on this)	
Appendix C: Invisible ink answers (print these on the answer sheet)	

## **Introduction**

This document contains most of the materials needed to use the exercise. The main part of the document is the instructor's copy. It tells how to use the exercise, presents the objectives, the problem booklet, the master answer sheet, the scoring key, and discussion notes to be used following the exercise. The last part of this document is three appendices. Appendix A is the exercise problem booklet. This booklet can be duplicated locally. The booklets are reusable. One is needed for every person in the classroom. Appendix B is the answer sheet. Copies of this answer sheet must have the invisible ink answers that appear in Appendix C printed on them.<sup>2</sup> Answer sheets are consumable. One is needed for each small group of persons who work the exercise.

## **Exercise Summary**

Read this section first. It determines if the exercise is appropriate for your classes. If you choose to use the exercise, examine the table of contents and review the remainder of this document.

Type: Invisible ink

Length: Eight questions

Skills: First aid  
Recognizing symptoms and providing first aid for a possible heart attack victim  
Figuring out how to get help

Location: Phosphate ore processing plant

Problem: You and J.J. are climbing up the catwalk of an 815 foot long conveyor belt to the top of a product storage bin. You are inspecting the belt for damage. Ten feet from the top, J.J. clutches his chest and sits down. He is in pain and has trouble breathing. You are the only one there to help him. You have to decide what to do, and whether to go for help or to stay with him.

---

<sup>2</sup> You can do this yourself if you have the proper equipment, or you may obtain copies of preprinted answer sheets from NIOSH, Pittsburgh Research Laboratory, Pittsburgh, PA phone 412-386-5901, fax 412-386-5902 or email to [minetraining@cdc.gov](mailto:minetraining@cdc.gov).

### **How To Use This Exercise**

1. Look at the performance objectives. Decide if the exercise is relevant for your mine training class.
2. Work through the exercise with the developing pen and score your responses.
3. Read the master answer sheet for the exercise. Look at all the answers.
4. Read the "Instructor's Discussion Notes" for the exercise.
5. Become thoroughly familiar with the problem so that you can present it to your class without reading it. Put the illustration on an overhead projector so you can use these to help explain the problem.
6. When you present the exercise to the class:
  - Give each person an exercise booklet, and each small group an answer sheet, and a developing pen.
  - Demonstrate how to select and mark answers using the developing pen.
  - Go over the instructions for doing the exercise with the whole group.
  - Explain the problem making sure everyone understands the problem situation.
  - Have the class members work the exercise.
  - When the class members finish, have them figure up their score using the instructions at the end of the exercise.
  - When everyone has finished, discuss the exercise. Let class members discuss the merits of each answer. Add your own ideas.

### Performance Objectives for Problem on the Catwalk (Phosphate)

Objective number	Capability verbs	Description of required performance and conditions under which it is to occur
1. FA <sup>3</sup>	Recognize Identify	Physical signs of a heart attack
2. FA	Discriminate	Signs and symptoms of a heart attack from exercise-produced angina pectoris in a person who carries nitroglycerin tablets
3. FA	Recognize Select	Appropriate questions that can help assess whether the victim is undergoing a heart attack or simply an episode of exercise-induced chronic angina pectoris
4. FA	Recall Select	Appropriate means to check a person for signs of a heart attack
5. FA	Recall Select Identify	Proper first aid procedures for a victim with chest pain who may be having a heart attack
6. FA	Recall Select	A conservative "worst case" first aid course of treatment when an ongoing heart attack is possible
7. FA	Judge Discriminate Identify	A course of action that balances staying with the victim to render aid versus going for assistance given a potential heart attack victim
8. FA	Recognize Identify	The need to stay with a potential heart attack victim to render CPR

---

<sup>3</sup> Skill and knowledge domain abbreviation:  
FA = first aid

### Master Answer Sheet for Problem on the Catwalk (Phosphate)

Use this answer sheet to mark your selections. Rub the special pen gently and smoothly between the brackets. Don't scrub the pen or the message may blur. Be sure to color in the entire message once you have made a selection. Otherwise you may not get the information you need.

#### Question A (Choose only ONE unless you are told to "Try Again!")

1. [ If J.J. is having a heart attack even this exertion could be dangerous. Try again! ]
2. [ If J.J. is having a heart attack further exertion could be dangerous. Try again! ]
3. [ Correct! This is the safest thing to do. Do the next question. ]
4. [ Leaving J.J. alone could be dangerous. Try again! ]

#### Question B (Select as MANY as you think are correct.)

5. [ This is not a sign of a heart attack. ]
6. [ This is not a sign of a heart attack. ]
7. [ Correct! He says he doesn't feel "queasy." ]
8. [ This is one sign of a stroke but not of a heart attack. ]
9. [ This type of pain is not a sign of a heart attack. ]
10. [ Correct! He says he has chest and shoulder pain. ]
11. [ Correct! His forehead is dry. ]
12. [ Correct! He appears to be breathing normally for the grade he has been climbing. ]

#### Question C (Choose only ONE unless you are told to "Try Again!")

13. [ He says the pills aren't supposed to be swallowed. Try again! ]
14. [ Correct! This is the right thing to do for a person who carries nitroglycerin and is having chest pain. Do the next question. ]
15. [ Causing J.J. to exert himself further and making him angry would be dangerous. Try again! ]
16. [ Not yet. Leaving J.J. alone could be dangerous. Try again! ]

**Question D** (Select as MANY as you think are correct.)

17. [ Correct! The nitroglycerin has probably stopped the chest pain, but J.J. needs ]  
[ to rest because the drug can cause weakness and faintness; and he may be ]  
[ having a heart attack. ]
18. [ Not yet! J.J. could have further heart problems while you are gone. He may ]  
[ need your help. ]
19. [ This could cause weakness and dizziness and is not necessary. ]
20. [ Correct! He says, "I always get a chest cramp when I over do it, but the pills ]  
[ take care of it." ]
21. [ Correct! A good idea to yell for help, while staying near him. However, you ]  
[ see no one and when you yell no one comes. ]

**Question E** (Select as MANY as you think are correct.)

22. [ Correct! J.J. says his chest has hurt a lot all week. ]
23. [ J.J. looks nervous. He says, "None of your business!" ]
24. [ Correct! J.J. says it was worse this time, but that it is gone now that he took ]  
[ his pill. ]
25. [ Correct! J.J. says, "No. Not for several months. I try to avoid it." ]

**Question F** (Select as MANY as you think are correct.)

26. [ Correct! He does this and says he can breathe better now. ]
27. [ When you try this J.J. doesn't like it. You hear what sounds like a fast but ]  
[ normal heart beat. ]
28. [ Correct! Soon he says the pain is not as bad as it was. ]
29. [ When you try this his pain gets worse. He falls down and says he can't ]  
[ breathe. ]
30. [ Correct! He says he will stay there. You go down to the washer control room ]  
[ to get help. ]
31. [ His pulse feels fast and strong. He squints and complains about the light in ]  
[ his eyes. ]

**Question G** (Choose only ONE unless you are told to "Try Again!")

32. [ This is not a good idea. Try again! ]
33. [ This is wrong. He may not be. You should be doing something else. Try  
[ again! ]
34. [ Correct! The plant property is large. It would be easy for the ambulance to  
[ get lost. It is important that you get back to J.J. Do the next question. ]
35. [ This would waste time. There is no answer. Try again! ]

**Question H** (Select as MANY as you think are correct.)

36. [ Correct! ]
37. [ J.J. has no signs of shock. This action would hurt him. ]
38. [ Correct! If this were to happen CPR could save him. If you were away, he  
[ would die. ]
39. [ He should stay where he is. It would be risky to have him climb down. ]  
[ Anyway, you cannot tell when it is "safe" for him to try. ]
40. [ It is important to help him, but you shouldn't be worried about this now. ]

**Finding your score**

Number of "Correct" answers you colored in = (1)\_\_\_\_\_

22 minus the number of incorrect answers you colored in = (2)\_\_\_\_\_

Add the numbers in blanks one and two to get your total score = (3)\_\_\_\_\_

Highest possible score = 40

Lowest possible score= 0



## **Instructor's Discussion Notes for Problem on the Catwalk (Phosphate)**

Use the information presented here and on the master answer sheet, your own ideas and experience, and those of the miners in your class to discuss the exercise after it is completed. Group discussion can help strengthen knowledge and skills, correct errors, and relate the exercise content to the experiences of the miners. After they have worked the exercise, miners enjoy discussing the problem. They also frequently think of better ways to respond to a problem than those listed among the answers. The purpose of the exercise is to help miners think about and remember basic knowledge and skills they may someday need to deal with a mine emergency. The discussion following the exercise can contribute to this goal and tailor the exercise content to the needs of the group you are training.

It is helpful to show overhead transparencies of the answers on the master answer sheet during the discussion, while miners look at their problem booklets. This allows you to lead the group through the exercise and to discuss all the answers to each question. Most of the information about why particular answers are correct or incorrect is given on the master answer sheet.

The following notes provide additional information for you to discuss with your class. Read through and think about the notes before the class. Don't read the notes to the class members. This would be boring and ineffective. Rather, incorporate the ideas you find here with your own ideas and make these points at the appropriate place in the discussion of the exercise.

**Question A** - The correct answer is 3. The first aider must first determine if J.J. is having a heart attack or "routine" exertional chest pain (angina pectoris). J.J.'s denial of needing help must be taken with a grain of salt because this is a typical response of a heart attack victim. The rescuer should stay with J.J. and discourage exertion.

**Question B** - The correct answers are 7, 10, 11, and 12. The other choices are not signs of a heart attack. The pain of a heart attack is usually described as compressing, constricting, or aching rather than sharp or throbbing. In addition, the victim may express "feelings of impending doom." The pulse rate is often increased and there may be other signs of shock. J.J.'s lack of symptoms suggest that he is not having a heart attack.

**Question C** - The correct answer is 14. Not only will the nitroglycerin relieve the pain of simple angina, it will give the rescuer another clue as to whether J.J. is having a heart attack. That is, the pain of a heart attack often does not respond to this drug. The nitroglycerin will be ineffective if swallowed. It is important not to leave J.J. If his heart stopped he would need CPR. Whether or not J.J. is having a heart attack is immaterial. He should still be treated as if he were.

**Question D** - The correct answers are 17, 20, and 21. The fact that J.J. frequently has chest pain at this level of activity is an important indicator that he may not have had a heart attack. Climbing 815 feet to the top of a product storage bin is very strenuous. He has overexerted himself and is in danger. Although he might be able to return to the

ground, this action might precipitate a major heart attack. You need to act conservatively and assume the worst. Answer 17 is good because it gets him to stop and rest. Answer 20 is good because it provides you with information helpful for making first aid decisions. Answer 21 is desirable because it allows you to try to get help while staying close to and watching J.J.

**Question E** - Answers 22, 24, and 25 are all correct. They give you information that suggests J.J. may be in trouble. Answer 23 is likely to anger and frighten J.J. This could harm him. The question also provides no information useful to the first aid care of J.J.

**Question F** - The correct answers are 26, 28, and 30. The important thing here is to get J.J. to lie down on his back with his head uphill. This position on the slope will make it easier for him to breathe. Heart attack or possible heart attack victims should have the head and shoulders raised into such a position. Giving him another nitroglycerin tablet may further dilate his heart arteries, and ease his pain and prevent a heart attack. Reassuring him, covering him to keep him warm, and asking him to lie still will all help. Leaving him to go to the washer control room for help is risky, but you may need to do so. If his heart stops while you are gone, you won't be able to give him CPR. However, if you stay with him you may delay getting him the medical treatment he needs. If his heart does stop and you begin one person CPR, no one is around to help. It may be a long time before anyone comes looking for you. You may quickly become tired and J.J. may die. So it might be better to leave and go to the control room to call for help once you have him lying down and stabilized.

Answer 27 will annoy him, waste time, and give you no information that can help your first aid efforts. Answer 29 will create more risk and may kill him. Answer 31 is not a correct action unless he were unconscious and you wanted to check for brain injuries, or if you were doing CPR and wanted to check for circulation to the brain: Here, with a conscious, alert victim it wastes time and provides no useful information.

**Question G** - The correct answer is 34. The most important action is to get back to J.J. If you don't he may try to get up and climb down. He also needs to be reassured. He might also need CPR. The washer control room operator needs to get someone to meet the ambulance at the gate. It would be easy for the ambulance driver to take a wrong turn on the property, get lost, and delay treatment for J.J.

**Question H** - The correct answers are 36 and 38. The reasons are given in the discussion notes for Question G. If he shows signs of shock, you should comfort him and keep him warm. In the case of a heart attack or possible heart attack, you would not want to lower his head and chest while raising his feet. This would make it more difficult for his heart and harder for him to breathe. You would be foolish to have him walk down. It would endanger him. It would also do nothing to help him. Why have him exert himself when the ambulance crew can assist with his transport to the ambulance? At this time, your attention should be directed to J.J., and not to what you will say to his family members in the event of his death. He needs your full attention and help now.

## **References**

- American Heart Association. (1985). Instructor's manual for basic life support (pp. 25-27). Dallas, TX: Author.
- American Heart Association. (1981). Student's manual for basic life support (pp. 15-16). Dallas, TX: Author.
- Bergeron, J. D. (1982). First Responder (pp. 191-193). Bowie, MD: Robert J. Brady Co.
- Grant, H. D., Murray, R. H., & Bergeron, J. D. (1982). Emergency care (3rd ed.) (pp. 237-241). Bowie, MD: Robert J. Brady Co.
- Mine Health and Safety Administration. (1980). First aid book (pp. 201-203). Washington, DC: U.S. Department of Labor.
- South, J.S. (1984). Report of investigation underground coal mine) fatal other (overexertion) accident. Mine ID No. 15-12167, Johnson County, KY. Paintsville, KY: MSHA, Paintsville Subdistrict Office.

### Scoring Key for Problem on the Catwalk (Phosphate)

The correct answers are marked with an asterisk.<sup>4</sup>

Question	Answer Number								
A	1	2	3*	4					
B	5	6	7*	8	9	10*	11*	12*	
C	13	14*	15	16					
D	17*	18	19	20*	21*				
E	22*	23	24*	25*					
F	26*	27	28*	29	30*	31			
G	32	33	34*	35					
H	36*	37	38*	39	40				

---

<sup>4</sup> This page is printed in large type so that it may be copied and used as an overhead transparency.

## **Appendix A: Problem Booklet**

Duplicate this copy of the problem booklet for use in your classes. **Booklets should be printed on only one side of the paper.** Each person in your class should have a problem booklet while they are working the exercise. The problem booklets are reusable. To save effort and money, ask the trainees to avoid marking in the booklets and collect all the booklets after the class.

You may obtain a copy of the problem booklet from NIOSH, Pittsburgh Research Laboratory, Pittsburgh, PA phone 412-386-5901, fax 412-386-5902 or email to [minetraining@cdc.gov](mailto:minetraining@cdc.gov).

**Problem on the Catwalk (Phosphate)**

**Problem Booklet**

## **Instructions**

Read the problem described on the next page. Next, answer each of the eight questions. Do them one at a time. Don't jump ahead, but you may look back to earlier questions and your answers. Some questions tell you to choose only one answer unless you are told to "Try again!" Other questions tell you to select as many answers as you think are correct. Follow the directions for each question.

After you have selected a choice to a question, look up its number on the answer sheet. Select your answer to each question by rubbing the developing pen between the brackets on the answer sheet. A hidden message will appear and tell you if you are right. When you finish you will learn how to score your performance.

## **Problem on the Catwalk (Phosphate)**

### **Background**

It is dry with overcast skies, 74°, and 10:20 p.m.

There are few people on the property this evening.

An 815 ft. long conveyor belt leads to the top of a product storage bin.

The conveyor belt drive has broken down. The belt runs from the washer to the product bin.

You are an electrician, trained in basic first aid and CPR.

J.J. Parsons, your co-worker, is 52 years old, has a heart condition and carries nitroglycerin tablets.

There is a washer operator in the control room, about three minutes from your position.

A basic life support ambulance and EMTs are 15 minutes away at the nearest town.

### **Problem**

You and J.J. are walking up the catwalk beside the conveyor to check the belt drive for damage. About 10 feet from the top of the bin, J.J. gasps, clutches his chest, and sits down on the walkway. Look at Figure 1 on the next page. Then turn to page 5 and answer the first question.



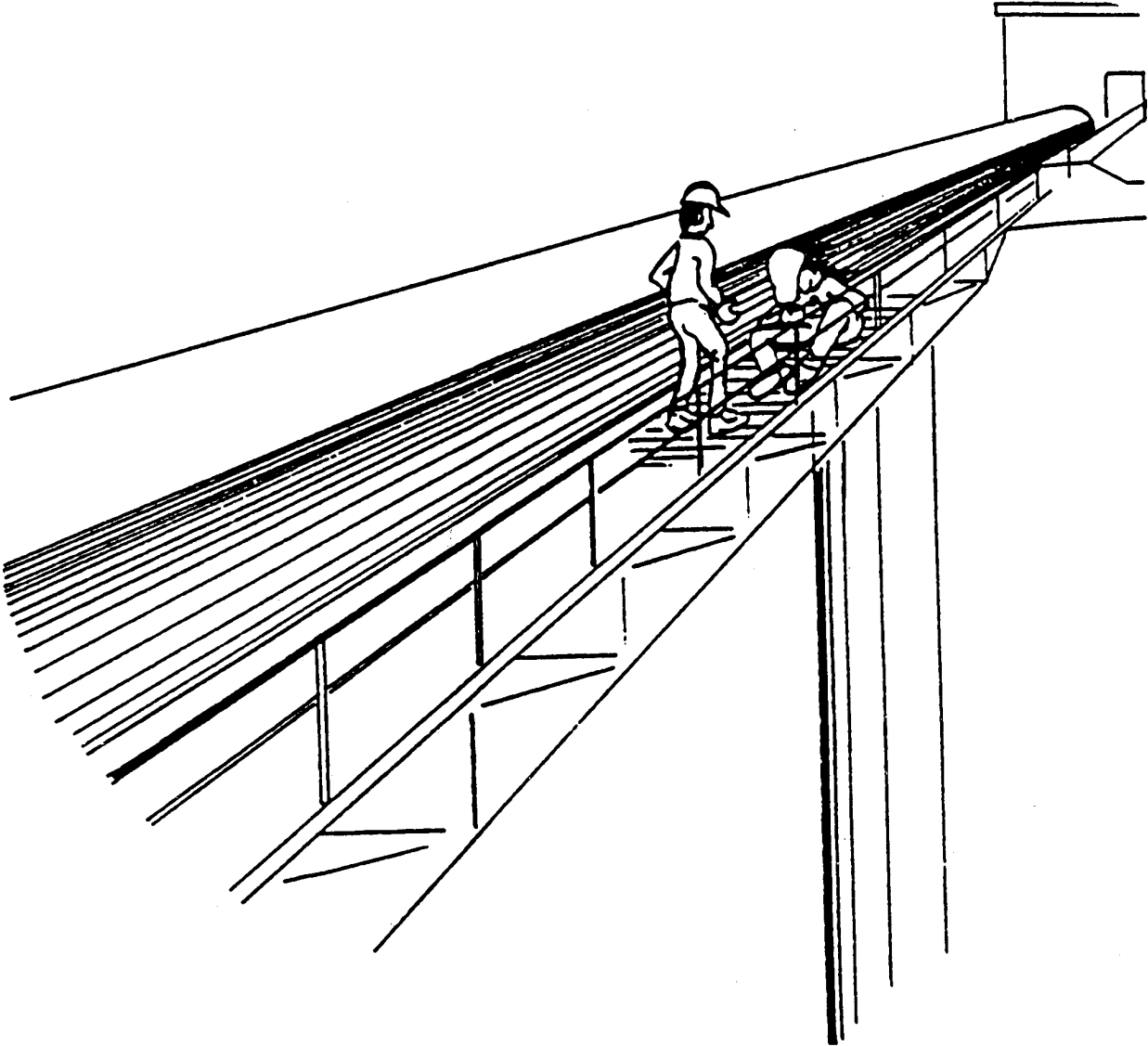


Figure 1: J.J. gasps, clutches his chest, and sits down

**Question A**

J.J. says "I'm all right. Help me up. I can make it." What should you do now? (Choose only ONE unless you are told to "Try Again!")

1. Carry J.J. down the catwalk on your back.
2. Help J.J. walk back down the catwalk to the ground.
3. Tell J.J. to take it easy and check him for a heart attack.
4. Run to the washer control room and get help.

**Question B**

You are checking J.J. for a heart attack. What things should you look for? (Select as MANY as you think are correct.)

5. Dilated pupils
6. Flushing (redness) of the face
7. Nausea
8. Numbness on one side of the body
9. Pain that begins below the left nipple and worsens with a deep breath
10. Pain in the center of the chest, shoulder, neck, arms, or jaw
11. Sweating
12. Trouble breathing

**When you have made your selection(s) do the next question.**

**Question C**

J.J. says "Let me be," and tries to get up. What should you do now? (Choose only ONE unless you are told to "Try Again!")

13. Ask him to rest a minute and swallow one of his nitroglycerin tablets.
14. Ask him to rest a minute and then put a nitroglycerin tablet under his tongue.
15. If necessary, hold J.J. down to keep him from getting up.
16. Run to the phone in the washer control room and call the ambulance.

**Question D**

J.J. now says that the pain is gone. What should you do now? (Select as MANY as you think are correct.)

17. Have him rest a couple of more minutes before doing anything.
18. Tell him to wait. You run to the washer control room and call the ambulance.
19. Tell J.J. to take another nitroglycerin tablet "for insurance."
20. Ask him if he always has chest pain when he exerts himself.
21. While J.J. rests, you walk the 10 feet up the catwalk to the top of the bin and yell for help.

**When you have made your selection(s) do the next question.**

**Question E**

You check on J.J. again. As you talk with him, he again says he always gets chest pain when he does heavy work. What additional questions should you ask him now? (Select as MANY as you think are correct.)

- 22. "Have you had more chest pain than usual lately?"
- 23. "How many of your family members died from heart attacks?"
- 24. "Is the pain usually this bad when you do heavy work?"
- 25. "Have you walked up to the top of the bin recently?"

**When you have made your selection(s) do the next question.**

**Question F**

After he rests awhile, J.J. says he can make it back down to the ground. He gets up and starts down the catwalk. He stops after a few steps, sits down, rubs his chest and says he has pain again and can't catch his breath. What should you do now? (Select as MANY as you think are correct.)

26. Have him sit down with his legs pointing down the catwalk and help get him into a position he says is comfortable.
27. Unbutton his shirt. Put your ear to his chest and listen to his heart.
28. Help him put another nitroglycerin tablet under his tongue, as he requests.
29. After he rests for a few minutes, get him up. Help him down the catwalk and get him medical attention.
30. Cover him with your jacket, ask him to rest, and reassure him. Tell him that you're going for help and he should stay there. Then go.
31. Take J.J.'s pulse and shine your light into his eyes to see if his pupils get smaller.

**When you have made your selection(s) do the next question.**

**Question G**

After you cover J.J. with your jacket and reassure him, you go for help. In about 3 minutes, you come to the washer control room. You and the washer operator call the ambulance and describe J.J.'s condition and the plant location. You're told that the ambulance will arrive in 15 minutes. Now what should you do? (Choose only ONE unless you are told to "Try Again!")

- 32. Both you and the washer operator should go back and take care of J.J.
- 33. Have the washer operator call J.J.'s home and notify his wife or family that he is having a heart attack.
- 34. While you go back to help J.J., have the washer operator call another worker to meet the ambulance at the plant gate and bring it to J.J.'s position.
- 35. Call the company office to see if they have J.J.'s medical records, so you can give these to the ambulance EMTs.



### **Question H**

When you get back to J.J. you find him resting as you left him. He says he feels better. Why is it important to stay with J.J. and not leave him? (Select as MANY as you think are correct.)

36. To reassure and calm him.
37. To immediately place his head down the inclined catwalk and his feet uphill to treat him for shock.
38. So you can give him CPR in case his heart stops.
39. So you can check him and decide when it is OK for him, with your help, to climb down the catwalk.
40. So you can tell his family you did all you could in case he dies.

### **End of Problem**

#### **Scoring your performance**

1. Count the total number of responses you colored in that were marked "correct." Write this number in the first blank on the answer sheet.
2. Count the total number of "incorrect" responses you colored in. Subtract this number from 22. Write the difference in the second blank on the answer sheet.
3. Add the numbers on the first and second blanks. This is your score.

The best possible score of 40 results from selecting all the correct answers and no wrong answers.

The worst possible score of zero results from selecting all the wrong answers and no correct answers.

## **Appendix B: Answer Sheet Blanks**

These are the answer sheet blanks. Copies of these blank answer sheets may be duplicated in the normal fashion. However, the answers that are found within the brackets must be printed on these blank answer sheets in invisible ink. These answers are found in Appendix C. If you have the capability to print invisible ink, make copies of the blank answer sheets. Make a master of the answers that appear in Appendix C. Then print the invisible ink on the blank answer sheets, being careful to make sure all pages print and that the appropriate answers line up with the appropriate blanks. The Master Answer Sheet shows all the answers in their proper places.

Most companies and trainers prefer to obtain copies of the preprinted answer sheets from NIOSH, Pittsburgh Research Laboratory, Pittsburgh, PA phone 412-386-5901, fax 412-386-5902 or email to [minetraining@cdc.gov](mailto:minetraining@cdc.gov).

The exercise is designed to be used in small groups. You will need one answer sheet for each group of 3 to 5 persons in your class. The answer sheets are consumable. You will need a new set for each class.

A developing pen is also needed by each person who marks an answer sheet. These may be obtained from the A. B. Dick Company, P.O. Box 1970, Rochester, New York 14692, phone 1-800-225-4835.

**Answer Sheet for Problem on the Catwalk (Phosphate)**

Use this answer sheet to mark your selections. Rub the special pen gently and smoothly between the brackets. Don't scrub the pen or the message may blur. Be sure to color in the entire message once you have made a selection. Otherwise you may not get the information you need.

**Question A** (Choose only ONE unless you are told to "Try Again!")

- 1. [ ]
- 2. [ ]
- 3. [ ]
- 4. [ ]

**Question B** (Select as MANY as you think are correct.)

- 5. [ ]
- 6. [ ]
- 7. [ ]
- 8. [ ]
- 9. [ ]
- 10. [ ]
- 11. [ ]
- 12. [ ]
- [ ]

**Question C** (Choose only ONE unless you are told to "Try Again!")

- 13. [ ]
- 14. [ ]
- [ ]
- 15. [ ]
- [ ]
- 16. [ ]

**Question D** (Select as MANY as you think are correct.)

17. [ ]  
[ ]  
[ ]

18. [ ]  
[ ]

19. [ ]

20. [ ]  
[ ]

21. [ ]  
[ ]

**Question E** (Select as MANY as you think are correct.)

22. [ ]

23. [ ]

24. [ ]  
[ ]

25. [ ]

**Question F** (Select as MANY as you think are correct.)

26. [ ]

27. [ ]  
[ ]

28. [ ]

29. [ ]  
[ ]

30. [ ]  
[ ]

31. [ ]  
[ ]

**Question G** (Choose only ONE unless you are told to "Try Again!")

32. [ ]

33. [ ]  
[ ]

34. [ ]  
[ ]

35. [ ]

**Question H** (Select as MANY as you think are correct.)

36. [ ]

37. [ ]

38. [ ]  
[ ]

39. [ ]  
[ ]

40. [ ]

**Finding your score**

Number of "Correct" answers you colored in = (1)\_\_\_\_\_

22 minus the number of incorrect answers you colored in = (2)\_\_\_\_\_

Add the numbers in blanks one and two to get your total score = (3)\_\_\_\_\_

Highest possible score = 40

Lowest possible score= 0

### **Appendix C: Invisible ink Answers**

These pages contain the answers that must be printed in the blanks of the answer sheet in Appendix B. These answers are spaced and sequenced correctly so that they exactly match up with the appropriate blanks on the answer sheet blank.

Once the answers have been printed in the answer sheet blanks, the developing pen reveals the formerly invisible printed message.

You may obtain preprinted answer sheets or you may prepare your own copies. To learn more about these options, and to determine how many answer sheets and developing pens you will need, see the introductory section of the Instructor's Copy.

If J.J. is having a heart attack even this exertion could be dangerous. Try again!

If J.J. is having a heart attack further exertion could be dangerous. Try again!

Correct! This is the safest thing to do. Do the next question.

Leaving J.J. alone could be dangerous. Try again!

This is not a sign of a heart attack.

This is not a sign of a heart attack.

Correct! He says he doesn't feel "queasy."

This is one sign of a stroke but not of a heart attack.

This type of pain is not a sign of a heart attack.

Correct! He says he has chest and shoulder pain.

Correct! His forehead is dry.

Correct! He appears to be breathing normally for the grade he has been climbing.

He says the pills aren't supposed to be swallowed. Try again!

Correct! This is the right thing to do for a person who carries nitroglycerin and is having chest pain. Do the next question.

Causing J.J. to exert himself further and making him angry would be dangerous. Try again!

Not yet. Leaving J.J. alone could be dangerous. Try again!

Correct! The nitroglycerin has probably stopped the chest pain, but J.J. needs to rest because the drug can cause weakness and faintness; and he may be having a heart attack.

Not yet! J.J. could have further heart problems while you are gone. He may need your help.

This could cause weakness and dizziness and is not necessary.

Correct! He says, "I always get a chest cramp when I over do it, but the pills take care of it."

Correct! A good idea to yell for help, while staying near him. However, you see no one and when you yell no one comes.

Correct! J.J. says his chest has hurt a lot all week.

J.J. looks nervous. He says, "None of your business!"

Correct! J.J. says it was worse this time, but that it is gone now that he took his pill.

Correct! J.J. says, "No. Not for several months. I try to avoid it."

Correct! He does this and says he can breathe better now.

When you try this J.J. doesn't like it. You hear what sounds like a fast but normal heart beat.

Correct! Soon he says the pain is not as bad as it was.

When you try this his pain gets worse. He falls down and says he can't breathe.

Correct! He says he will stay there. You go down to the washer control room to get help.

His pulse feels fast and strong. He squints and complains about the light in his eyes.



This is not a good idea. Try again!

This is wrong. He may not be. You should be doing something else. Try again!

Correct! The plant property is large. It would be easy for the ambulance to get lost. It is important that you get back to J.J. Do the next question.

This would waste time. There is no answer. Try again!

Correct!

J.J. has no signs of shock. This action would hurt him.

Correct! If this were to happen CPR could save him. If you were away, he would die.

He should stay where he is. It would be risky to have him climb down. Anyway, you cannot tell when it is "safe" for him to try.

It is important to help him, but you shouldn't be worried about this now.