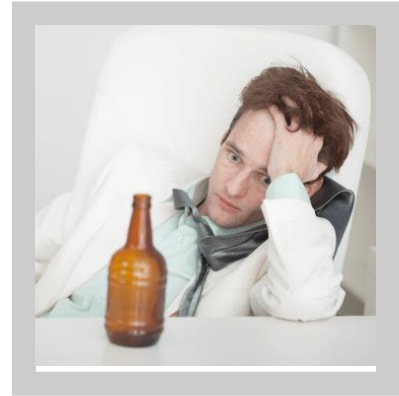


Name _____

Date _____

Veisalgia

Veisalgia, more commonly known as a hangover, is the name for the range of unpleasant physical effects that occur following the excessive consumption of alcoholic beverages. The most commonly experienced effects include nausea, vomiting, sensitivity to light and sound, headache, thirst, and lethargy. The degree of the hangover's severity is determined by factors occurring both before and after the alcohol is metabolized. Currently, there is no scientifically proven way to treat the symptoms of a hangover. Furthermore, if current research trends are any indication, there is no cure for veisalgia on the horizon.



The main pre-metabolic cause of veisalgia is the quantity of alcohol consumed. Binge drinking is one of the most notorious contributors to hangovers. Empirical research suggests that even an increase in consumption from four to six beers can result in twice the susceptibility to end up with a hangover. Another pre-consumption factor that contributes to hangovers is the amount of congeners present in the alcohol. Congeners are chemical substances produced during the fermentation process that give the alcohol color, taste, and aroma. Recent studies have shown that alcohol with a high congener content, such as bourbon (which is brown), is three times as likely to cause a hangover as the same amount of a low-congener alcohol, such as vodka (which is clear).

Post-metabolic causes of veisalgia have less to do with the amount or kind of alcohol consumed and more to do with genetics. One of the major post-metabolic causes of veisalgia is the production of acetaldehyde. During the initial stages of metabolization, the liver produces an enzyme known as alcohol dehydrogenase. This enzyme works to convert the ethanol present in alcohol into the compound acetaldehyde. Studies have shown that individuals who lack this enzyme—and thus also lack the ability to break down ethanol in the liver—have a much higher rate of hangover occurrence, and experience more immediate and more severe hangover symptoms.

Treatments and preventative measures for veisalgia range from home remedies to pharmaceutical solutions. Pliny the Elder, an ancient Roman naturalist, suggested that one eat raw owl eggs to treat the symptoms of a hangover. Modern home remedies range from honey to hot sauce to "the hair of the dog," an expression meaning "more alcohol." None of these cures have any scientific basis, and, instead of making symptoms better, they often actually exacerbate the situation. While popular cures are plentiful, very few clinical trials have been conducted to counteract the symptoms of hangovers. One team of scientists theorized that extract from the globe artichoke (*Cynara scolymus*) would treat the symptoms, while others have administered doses of propranolol, tolfenamic acid, glucose, or various herbal extracts to sufferers. None of these efforts has been met with any degree of definitive success.

Developing a clinical cure for veisalgia is particularly difficult because hangover symptoms can be arbitrary and hard to quantify. Additionally, clinical preventions are also troublesome to generate, because there is a lack of qualitative research on the causes of veisalgia. This lack of research is likely due to the fact that the scientific community does not generally view veisalgia as a serious ailment. Health care professionals are much more likely to spend time and grant money researching solutions to more critical problems, such as alcohol abuse. Hangovers, on the other hand, are generally viewed as somewhat beneficial: nature's disincentive against drunkenness.

- 1) The primary purpose of the passage is to
- A. warn readers about the dangers of excessive alcohol consumption
 - B. inform readers about the scientific causes of, and potential remedies for, hangovers
 - C. investigate the scientific reasons why some people are genetically predisposed to experience more severe hangover symptoms than others
 - D. provide a historical overview of various treatments for hangovers
 - E. convince medical professionals to devote more time to researching treatments for hangovers
- 2) According to the author, which of the following pre-metabolic factors would increase the likelihood of a person developing a hangover?
- I. drinking dark rum
 - II. lacking a specific enzyme
 - III. drinking small amounts over longer periods of time
- A. I only
 - B. II only
 - C. I and II only
 - D. II and III only
 - E. I, II, and III
- 3) The author suggests that genetics can play a part in the severity of one's hangover symptoms because
- A. people can be born with genetic dispositions that will make them more likely to become alcoholics, and thus experience hangover symptoms more frequently
 - B. mutations of certain genes can cause some people to experience kidney dysfunction, which can worsen dehydration and other hangover symptoms
 - C. people whose livers produce excessive amounts of alcohol dehydrogenase experience increased conversion of ethanol into acetaldehyde, and thus, more severe hangover symptoms
 - D. people whose livers do not produce enough alcohol dehydrogenase lack the ability to break down ethanol, which results in more severe hangover symptoms
 - E. mutations of certain genes can cause the liver to have difficulty processing congeners, which can result in more severe hangover symptoms

- 4) As used in paragraph 4, which is the best antonym for **exacerbate**?
- A. improve
 - B. compose
 - C. advance
 - D. purify
 - E. validate
- 5) Based on the information in paragraph 4, it can be inferred that
- A. the ancient Romans experienced less severe hangover symptoms than modern people
 - B. the benefits of modern science have brought society a long way from the “primitive” cures espoused by writers like Pliny the Elder
 - C. although there is no definitive cure for hangover symptoms, scientific solutions are generally more successful than home remedies
 - D. home remedies for hangover symptoms are often more successful than pharmaceutical solutions, because they have withstood the test of time
 - E. hangovers have plagued human beings for centuries, and we are no closer to figuring out a method of treatment than the ancient Romans were
- 6) In the final paragraph, the author suggests that medical professionals are disinclined to research a cure for hangovers for all of the following reasons EXCEPT
- A. researching cures for hangovers would waste precious money that could be better spent on other, more serious, illnesses
 - B. subjective reports of symptoms of veisalgia are not reliable
 - C. it is more productive to study the genetic causes of sensitivity to veisalgia
 - D. there is not enough research on what causes a hangover in the first place
 - E. some people believe that hangovers actually serve to deter people from over-indulging
- 7) The passage ends with the idea that hangovers are actually “somewhat beneficial” because they serve as “nature’s disincentive against drunkenness.” Respond to this claim. Can hangovers be truly beneficial, in your opinion? Why or why not?

Answers and Explanations

1) B

Core Standard: **Integration of Knowledge**

At the end of paragraph 1, the author writes, “The degree of the hangover’s severity is determined by factors occurring both before and after the alcohol is metabolized. Currently, there is no scientifically proven way to treat the symptoms of a hangover.” We can use this information to determine the primary purpose of the passage, which is then explored in later paragraphs. In paragraph 2, the author focuses on the factors occurring before alcohol is metabolized, writing, “The main pre-metabolic cause of veisalgia is the quantity of alcohol consumed.” In paragraph 3, the author focuses on factors that affect veisalgia after metabolization. This is evinced by the first sentence of paragraph 3, which sets up the focus of this paragraph: “Post-metabolic causes of veisalgia have less to do with the amount or kind of alcohol consumed and more to do with genetics.” Finally, in the third paragraph we see a focus on “Treatments and preventative measures for veisalgia...” We can use the information presented at the end of the introduction, and then at the beginning of each of the next three paragraphs, to determine that the primary purpose of this passage is to inform readers about the scientific causes of, and potential remedies for, hangovers. Therefore **(B)** is correct.

The author utilizes a scientific approach in this informative passage. At various points, the author cites “current research trends” and “Empirical research,” both of which indicate that this passage is more explanatory than argumentative. The tone is formal, with a focus on causes and possible treatments for veisalgia. Because there is no warning issued about the dangers of excessive alcohol consumption, **(A)** is incorrect.

In paragraph 3, the author mentions that some people are genetically predisposed to experience more severe hangover symptoms than others: “Studies have shown that individuals who lack this enzyme—and thus also lack the ability to break down ethanol in the liver—have a much higher rate of hangover occurrence, and experience more immediate and more severe hangover symptoms.” We can see that this information is only a part of what is presented in paragraph 3, however, and not the focus of any other paragraphs in the passage. Based on the lines cited above from each of the three body paragraphs, we know that other aspects of veisalgia are explored. Therefore **(C)** is incorrect, because it is too specific.

In paragraph 4, the author focuses on various possible treatments for veisalgia. We could hardly call this a historical overview, however, as there are no dates cited. None of the other paragraphs of the passage explore treatment; this topic is specifically the focus of paragraph 4. Therefore **(D)** is incorrect.

In paragraph 5, the author writes, “This lack of research is likely due to the fact that the scientific community does not generally view veisalgia as a serious ailment. Health care professionals are much more likely to spend time and grant money researching solutions to more critical problems.” We can see from the tone of this selection that the author is simply pointing out why medical professionals do not devote more time to researching ways to treat hangovers, rather than trying to convince them to change their focus. Because the passage is explanatory and not persuasive, **(E)** is incorrect.

2) A

Core Standard: **Integration of Knowledge**

In paragraph 2, the author writes, “Recent studies have shown that alcohol with a high congener content, such as bourbon (which is brown), is three times as likely to cause a hangover as the same amount of a low-congener alcohol, such as vodka (which is clear).” We can use this information to determine that darker colored liquors have higher congener content than clear liquors. Since dark rum is brown, it would be more likely than other clear liquors to cause a hangover. This supports **option (I)**.

In paragraph 3, the author focuses on post-metabolic causes, writing, “Studies have shown that individuals who lack this enzyme—and thus also lack the ability to break down ethanol in the liver—have a much higher rate of hangover occurrence, and experience more immediate and more severe hangover symptoms.” We can use this information to see that lacking a specific enzyme is a hangover factor; however it is not considered “a pre-metabolic cause.” Pre-metabolic causes are discussed in paragraph 2, and there is no mention of a specific enzyme in paragraph 2. This eliminates **option (II)**.

The author mentions “binge drinking” in paragraph 2, which focuses on pre-metabolic causes that increase the likelihood of developing a hangover. The author writes, “Binge drinking is one of the most notorious contributors to hangovers. Empirical research suggests that even an increase in consumption from four to six beers can result in twice the susceptibility to end up with a hangover.” We can use this information to see that “binge drinking” involves drinking an increasingly large amount of alcohol (the author says “from four to six beers”), rather than drinking small amounts over a long period of time. This eliminates **option (III)**. Therefore **(A)** is correct.

3) D

Core Standard: **Integration of Knowledge**

In paragraph 3, the author writes “Studies have shown that individuals who lack [the ability to produce alcohol dehydrogenase]—and thus also lack the ability to break down ethanol in the liver—have a much higher rate of hangover occurrence, and experience more immediate and more severe hangover symptoms.” This lets us know that the author suggests that genetics can play a part in the severity of one’s hangover symptoms because people whose livers do not produce enough alcohol dehydrogenase lack the ability to break down ethanol, which results in more severe hangover symptoms. Choice **(D)** is correct.

The author writes about genetic predispositions that affect how individuals process alcohol in the liver in paragraph 3; however there is no information in the passage to support the claim that these predispositions make people more likely to become alcoholics. If anything, we can infer that a genetic predisposition that would lead to increased severity of hangover symptoms would work against developing a drinking habit, because the author writes “Hangovers, on the other hand, are generally viewed as somewhat beneficial: nature’s disincentive against drunkenness.” Therefore **(A)** is incorrect.

The passage does not provide information to support the claim that mutations of certain genes can cause kidney dysfunction, thereby exacerbating dehydration and the severity of a hangover. Therefore **(B)** is incorrect.

In paragraph 3, the author writes, “Studies have shown that individuals who lack this enzyme—and thus also lack the ability to break down ethanol in the liver—have a much higher rate of hangover occurrence, and experience more immediate and more severe hangover symptoms.”

We can use this information to see that hangover symptoms are more severe for individuals who lack the enzyme compared to those people who produce excessive amounts of it. The passage provides no information about the effects of having too much of the enzyme, therefore **(C)** is incorrect.

The author mentions congeners in paragraph 2, which focuses on the pre-metabolic causes of hangover symptoms. The processing of ethanol in the liver is a post-metabolic cause. There is no information provided in the passage for us to determine how the congener content of alcohol (described in paragraph 2) affects the process of metabolizing alcohol in the liver (described in paragraph 3). Moreover, gene mutation is not mentioned anywhere in the passage. Therefore **(E)** is incorrect.

4) A

Core Standard: **Craft and Structure**

Exacerbate (verb): to worsen or aggravate.

In paragraph 4, the author writes that, “none of these cures have any scientific basis, and, instead of making symptoms better, often actually exacerbate the situation.” The word “instead” shows us that the next clause will run counter to the claim made immediately before it. Using this information, we can determine that if a treatment runs counter to making symptoms better, it must actually worsen them. So, worsen is a good definition for *exacerbate*. The opposite of to worsen is to improve. Therefore **(A)** is correct.

Compose means to make or form by combining things. Since we know that we are looking for the opposite of exacerbate, which means to worsen, we are looking for the word that most nearly means to improve. In order to improve something, it must already have been created. Therefore **(B)** is incorrect.

Advance means to move or bring forward. Since we know that we are looking for the opposite of exacerbate, which means to worsen, we are looking for the word that most nearly means to improve. Since certain nouns can be advanced, or moved physically forward, without actually being improved or made better, we know that advance does not adequately serve as exacerbate’s opposite. Therefore **(C)** is incorrect.

Purify means to make pure or free of contaminants. We can use the passage above to see that the situation being exacerbated in paragraph 4 is a hangover. Purify is too specific of an opposite (it is typically applied to liquids) to encapsulate all of the ways that hangover symptoms could be improved or made better. Therefore **(D)** is incorrect.

Validate means to substantiate or confirm. Since we know that we are looking for the opposite of exacerbate, which means to worsen, we are looking for the word that most nearly means to improve. If something is improved, it’s made better in some gradation. This is not the same as substantiating or confirming something, which is a definitive affirmation.

Therefore **(E)** is incorrect.

5) E

Core Standard: **Integration of Knowledge**

In paragraph 4, the author writes, “Pliny the Elder, an ancient Roman naturalist, suggested that one eat raw owl eggs to treat the symptoms of a hangover.” We can use this information to see that hangovers have plagued human beings for centuries. The author goes on to write, “Modern home remedies range from honey to hot sauce to ‘the hair of the dog,’ an expression meaning ‘more alcohol.’ None of these cures have any scientific basis, and, instead of making symptoms better, they often actually exacerbate the situation.” We can use this information to understand that since none of these modern home remedies have any scientific basis, and some actually exacerbate the situation, we are no closer to figuring out a method of treatment than the ancient Romans were. Therefore **(E)** is correct.

The author mentions ancient Romans in paragraph 4, specifically citing Pliny the Elder’s suggestion of how to cure a hangover. The passage does not provide any information to support the claim that ancient Romans experienced less severe hangover symptoms than modern people. Therefore **(A)** is incorrect.

In paragraph 4, the author writes that, “Pliny the Elder, an ancient Roman naturalist, suggested that one eat raw owl eggs to treat the symptoms of a hangover” before talking about modern home remedies. After listing some modern remedies, the author writes, “None of these cures have any scientific basis, and, instead of making symptoms better, they often actually exacerbate the situation.” We can use this information to see that the author suspends judgment on Pliny the Elder’s suggestion for hangovers, but does mention that modern home remedies exacerbate the situation.

For this reason, it would be incorrect for us to say that modern science has brought society a long way from ancient Roman times. When it comes to modern scientific efforts, the author concludes that, “None of these efforts has been met with any degree of definitive success.” Therefore **(B)** is incorrect.

In paragraph 4, the author writes, “very few clinical trials have been conducted to counteract the symptoms of hangovers,” because, as he goes on to state in paragraph 4, scientists choose to spend their time on more serious ailments. Next in the paragraph, the author outlines some of the attempts scientists have made, but ultimately draws the conclusion that “None of these efforts has been met with any degree of definitive success.” We can use this information to see that scientific solutions have not been met with more success than home remedies. Therefore **(C)** is incorrect.

In paragraph 4, the author writes, “Modern home remedies range from honey to hot sauce to ‘the hair of the dog,’ an expression meaning ‘more alcohol.’ None of these cures have any scientific basis, and, instead of making symptoms better, they often actually exacerbate the situation.” When it comes to pharmaceutical solutions, the author notes that “very few clinical trials have been conducted to counteract the symptoms of hangovers,” and of those that have “None of these efforts has been met with any degree of definitive success.” We can use this information to see that modern home remedies have not been more successful than pharmaceutical solutions because in some cases they actually may exacerbate the situation, while pharmaceutical attempts simply haven’t been met with definitive success.

Therefore **(D)** is incorrect.

6) C

Core Standard: **Integration of Knowledge**

The passage does not provide information to support the claim that medical professionals are disinclined to research a cure for hangovers because it is more productive to study the genetic causes of sensitivity to veisalgia. Therefore **(C)** is correct.

In the final paragraph, the author mentions that there is a lack of scientific research about hangovers and then attributes “this lack of research...to the fact that the scientific community does not generally view veisalgia as a serious ailment.” We can use this information to infer that the scientific community has deemed it more beneficial for the well-being of human beings to spend money on other, more serious, illnesses. This supports **(A)**, therefore it is incorrect.

In the final paragraph, the author writes, “Developing a clinical cure for veisalgia is particularly difficult because hangover symptoms can be arbitrary and hard to quantify.” We can use this information to see that arbitrary, unquantifiable data is not reliable. This supports choice **(B)**, therefore it is incorrect.

In the final paragraph, the author writes “clinical preventions are also troublesome to generate, because there is a lack of qualitative research on the causes of veisalgia.” We can use this information to determine that there is not enough research on what causes a hangover in the first place. This supports **(D)**, making it an incorrect choice.

In the last line of the passage, the author surmises that hangovers might be thought of as “nature’s disincentive against drunkenness.” We can use this information to see that some people believe that hangovers actually serve to deter people from over-indulging. This supports **(E)**, therefore it is incorrect.