

Code: \_\_\_\_\_

# FASD QUIZ

Date: \_\_\_\_\_

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- |  |   |  |
|--|---|--|
| 1) What is the leading known cause of developmental disabilities in western civilization today?                            | a | Down Syndrome                                      |
|  | b | Prenatal exposure to alcohol                       |
|  | c | Prenatal exposure to illicit drugs                 |
|  | d | Folic acid deficiency                              |
|  | e | Prematurity  |
| 2) What percentage of women who could become pregnant are drinking alcohol?  | a | 10%  |
|  | b | 20%  |
|  | c | 35%  |
|  | d | 55%  |
|  | e | 75%  |
| 3) What percentage of persons with Fetal Alcohol Spectrum Disorders are able to attain independence in living and working? | a | 10%  |
|  | b | 18%  |
|  | c | 35%  |
|  | d | 53%  |
|  | e | 67%  |
| 4) Which alcoholic beverage contains the greatest amount of alcohol?   | a | A 12 oz. can of beer                               |
|  | b | A 5 oz. glass of wine                              |
|  | c | One shot of liquor                                 |
|  | d | A 12 oz. wine cooler                               |
|  | e | All of the above                                   |
| 5) What is the most debilitating aspect of prenatal alcohol exposure?  | a | Memory deficits                                    |
|  | b | Growth retardation                                 |
|  | c | Poor judgment and lack of impulse control          |
|  | d | Mental retardation with IQ below 70                |
|  | e | Attention Deficit Disorder                         |
| 6) How much does treatment for full FAS cost US taxpayers each year?   | a | Almost \$250,000.00 each year                      |
|  | b | Almost \$1,900,000.00 each year                    |
|  | c | Almost \$2,800,000.00 each year                    |
|  | d | Almost \$5,400,000,000.00 each year                |
|  | e | Almost 0, expenses covered by private insurance    |
| 7) Which of the following groups of women are at higher than average risk for drinking during pregnancy?                   | a | Women with a college education                     |
|  | b | Unmarried women                                    |
|  | c | Female students                                    |
|  | d | Women in households with over \$50,000 income      |
|  | e | All of the above                                   |
| 8) Of the secondary disabilities associated with FASD, which one is most common?   | a | Mental health issues                               |
|  | b | Trouble in school                                  |
|  | c | Trouble with the law                               |
|  | d | Abuse of alcohol and/or other drugs                |
|  | e | Sexuality problems (victim or perpetrator)         |
| 9) Which of the following are protective factors for preventing secondary disabilities in FASD?                            | a | IQ below 70  |
|  | b | Early diagnosis                                    |
|  | c | Eligibility for disability services                |
|  | d | Stable home environment                            |
|  | e | All of the above                                   |
| 10) In which of the following ways does alcohol affect a man's ability to father healthy children?                         | a | Lower testosterone, poor sexual performance        |
|  | b | Reduced mobility of healthy sperm                  |
|  | c | Increased risk of inherited addictions, alcoholism |
|  | d | Possibly affects DNA in sperm before conception    |
|  | e | All of the above                                   |

Bonus Question: ARND (Alcohol Related Neurodevelopmental Disorder) is a complex pattern of behavioral and cognitive abnormalities caused by prenatal exposure to alcohol. ARND includes behavior disorders, learning disabilities, deficits in abstract math skills, memory deficits, attention deficits, hyperactivity, poor judgment, poor impulse control, and arrested social development. How often does ARND occur in the general population? \_\_\_\_\_

# FASD QUIZ - Answer Key and Explanation of Answers

1b 2d 3a 4e 5c 6d 7e 8a 9e 10e

## 1) What is the leading known cause of developmental disabilities in western civilization today?

Answer: According to the [National Organization of Fetal Alcohol Syndrome](#), Prenatal exposure to alcohol is the leading known cause of mental retardation in the United States. (PS Cook, et. al., Alcohol, Tobacco and Other Drugs May Harm the Unborn, US Department of Health and Human Services {USDHHS} Pub. No. {ADM} 90-1711, 1990, p. 17) The [World Health Organization](#) has stated that Fetal Alcohol Syndrome (FAS) is the leading cause of mental retardation in western civilization, as indicated by studies done in the U.S., Australia, Europe, and Canada. However, more than half of individuals with full FAS have an IQ over 79 (in the normal range), and most individuals with invisible forms of Fetal Alcohol Spectrum Disorders (FASD) have normal or above normal intelligence. ([Streissguth's studies on secondary disabilities](#)) The incidence of FAS is estimated to be 1.9 per 1,000, or about one in every 500 births. ([National Institute on Drug Abuse](#)) FAS may be even more frequent in some developing countries, like South Africa.

## 2) What percentage of women of child-bearing who could become pregnant are drinking alcohol (many before realizing they are pregnant)?

Answer: The rate of drinking among women of childbearing age who could become pregnant is currently 54.9% ([CDC Newsletter MMWR December 2004](#)). Even after knowing they are pregnant, 10% of women *report* that they continue to drink, and 3% *admit* to binge drinking while pregnant. ([SAMHSA 2002 National Survey on Drug Use and Health](#)). Recent research shows that 15% of women of childbearing age are problem drinkers (binge drinking and/or frequent drinking). ([Alcohol Clin Exp Res. 2000 Oct;24\(10\):1517-24](#)).

## 3) What percentage of persons with Fetal Alcohol Spectrum Disorders (FASD) attain independence in living and in employment?

Answer: According to research through the University of Washington [Fetal Alcohol and Drug Unit](#), about 18% of the adults with FASD in her study were able to achieve independent living, but fewer than 10% were able to live independently and without employment problems. ([Streissguth A, Fetal Alcohol Syndrome/Fetal Alcohol Effects: Secondary Disabilities and Mental Health Approaches. Quest Publishing, 1997](#)) One reason for this could be that the development of social skills could be arrested (not just delayed) in persons with FASD. This is a possible indication of research by Dr. Edward Riley, as reported in an article in [Crime Times](#). In children from 6 to 13 years old, the social maturation seemed to not progress beyond the level of a 4 to 6 year old child. ([Riley A, Alcohol Clin Exp Research, Vol. 22, No. 2, April 1998, pp. 528-533](#))

## 4) Which alcoholic beverage contains the greatest amount of alcohol?

A can of beer, a glass of wine, a shot of liquor, and a wine cooler all contain about 1/2 ounce of absolute alcohol. If a woman consumes two drinks within one hour, her baby could have a BAC (blood alcohol concentration) even higher than the mother, because the baby's system is not as mature and it takes the baby longer to metabolize the alcohol, which circulates in the baby's body far longer than it does in the mother's. The alcohol molecule is very tiny and passes easily from the mother to the baby, where it can destroy brain cells and can have adverse effects on the developing organs. Alcohol is a toxic substance and has no nutritional value.

## 5) What is the most debilitating aspect of prenatal alcohol exposure?

While alcohol exposure can cause all of the listed effects, the damage to the frontal lobes is serious, as this is where the brain maintains judgment, control of the impulses, and inhibitions ([executive functions](#)). Damage to the frontal lobes interferes with ability to make sound decisions, control behavior, express feelings, and curb impulses. This brain damage places the person with FASD at high risk of behavior problems, suspension and expulsion from school, and trouble with the law as an adult. This lack of impulse control and poor judgment impedes the person's ability to maintain meaningful employment and/or healthy social relationships. ([Streissguth A, Fetal Alcohol Syndrome: A Guide for Families and Communities. 1997 ISBN: 1557662835](#)) While physiological symptoms may dissipate, the cognitive function remains about the same, but behavioral and social difficulties become more serious as the child reaches adolescence and early adulthood. ([NIAAA, Ninth Special Report, op. cit., p. 229](#))

## 6) How much does it cost each year to treat infants, children and adults with full FAS?

Answer: Although early studies estimated the cost of FAS to be somewhere between \$250 million and \$1.6 billion, recent studies indicate a much higher price tag. According to a 1992 report issued by the National Institute on Drug Abuse, in one year taxpayers spent \$1.9 billion dollars to treat children and adults with diagnosed FAS. ([NIH Publication Number 98-4327 The Economic Costs of Alcohol and Drug Abuse in the United States; 1992; chapter 4.4.1](#)) The NIAAA Tenth Annual Report to Congress in 2000 states that the annual cost to taxpayers for FAS disorders is \$2.8 billion. ([View PDF report](#)) The most recent figure of \$5.4 billion comes from Henrick Harwood, The

Lewin Group, Fairfax, Virginia, who presented his report to the [FASD Center for Excellence trainers conference](#) in 2005. These figures do not include costs incurred for Alcohol Related Neurodevelopmental Disorders (ARND). For one child with full FAS, the lifetime costs could be as much as **\$5 million**.

**7) Which of the following groups of women are at high risk for drinking during pregnancy?**

Answer: Women who smoke (not included in the test, as this was too obvious); unmarried women; female students; women with a college education; and women in households with greater than \$50,000 annual income. These are results of a very recent survey of over 100,000 women which was conducted by the Center of Disease Control and Prevention. ([Obstetrics and Gynecology Vol. 92, pp. 187-192, Aug. 1998](#)).

**8) Of the following secondary disabilities associated with FASD, which one is most common?**

Answer: The most common secondary disability in FASD is mental health disorder, occurring in 94% of the adults in Ann Streissguth's studies, with clinical depression being the most prevalent diagnosis among adults with FASD. Mental health issues include suicide threats and attempts, panic attacks, and auditory and visual hallucinations. These problems seem to increase with age. Secondary disabilities are less likely to occur when protective factors are in place. ([Streissguth A, The Challenge of Fetal Alcohol Syndrome: Overcoming Secondary Disabilities, University of Washington Press, 1997](#))

**9) Which of the following are protective factors for preventing secondary disabilities in FASD?**

Answer: An IQ below 70, early diagnosis, eligibility for state services, absence of domestic violence, and stable home environment are all protective factors, according to Streissguth's research. Unfortunately, only about 15% of adults with FASD are found to be eligible for services for persons with developmental disabilities, because most of them have IQ's above 70, which is the cut-off in most states for eligibility for services. The person with an IQ lower than 70 will more likely qualify for services, and will be identified as having disabilities; therefore, inappropriate behavior is more easily tolerated and understood. But the child or adult with an IQ in the normal range is more likely to appear normal to others, and inappropriate behavior will be judged more harshly; this is a factor in the chronic frustration the child experiences that is likely to result in depression and/or aggressive behavior. The child who appears to be normal but has the same neurological difficulties as the child with a lower IQ is more likely to be judged as "bad" and is more prone to the anger and frustration resulting from unrealistic expectations of parents and teachers who do not recognize or understand the neurological origins of the problem behaviors. The average IQ of the person with FAS is about 80, and the average IQ of the person with ARND is around 90; however, almost all of them suffer mental impairments of low social skills, emotional immaturity, memory deficits, and most have a need for continued close supervision and support services. ([Streissguth A, Fetal Alcohol Syndrome/Fetal Alcohol Effects: Secondary Disabilities and Mental Health Approaches. Quest Publishing, 1997](#))

**10) In which of the following ways does alcohol affect a man's ability to father healthy children?**

Answer: Alcohol affects the male in all the ways listed. Children whose biological fathers are/were heavy drinkers are at higher risk of birth defects, social problems, learning problems, and behavior problems. It is not known how much is due to alcohol consumption before or at the time of conception, or is attributable to inherited/genetic factors. It is known that alcohol use in the family increases the risk of child abuse, sexual abuse, domestic violence, automobile accidents, accidents in the home, unemployment, and suicide. All of these factors can have a negative impact on raising a child. When a woman is pregnant, and trying to abstain from alcohol, the number one factor in her not consuming alcohol is her partner's not using alcohol as well. For more information, see the online article, ["What About Dads?"](#)

**Bonus question: How often does ARND occur in the general population?**

Simple answer: 1:100 or 1%. For every child born with full FAS, 4 or 5 are born with invisible ARND. This occurs at a rate of 1 in every 100 live births, a rate greater than Down Syndrome, Spina Bifida, and Cerebral Palsy combined. This adds up to more than 50,000 babies born affected every year in the U.S. [Sampson, P.D.; Streissguth, A.P.; Bookstern, F.L.; Little, R.E.; Clarren, S.K.; Dehanne, P.; et al. Incidence of FAS and prevalence of ARND. Teratology 56: 317-326, 1997.]

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If you are pregnant or are sexually active, the only safe amount of alcohol to consume is no alcohol at all.

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For more information on FASD, visit the  
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