

Why measure carbohydrate deficient transferrin?

Target audience: primary and secondary care healthcare professionals

Goal of the activity: updating knowledge; helping clinical decision-making

Authors/disclosures: DTB editorial team/no conflict of interest

Specific learning objectives: to improve knowledge and understanding of carbohydrate deficient transferrin (CDT)

Article reference: DTB 2017; 55: 69-72.

Questions DOI: 10.1136/dtb.2017.6.0491

Question 1

According to the UK Department of Transport, approximately what percentage of drivers killed in motor vehicle accidents were over the legal blood alcohol limit in 2013?

- a. 5%
- b. 10%
- c. 20%
- d. 40%
- e. 60%

Answer: c. In 2013, around 21% of drivers killed in motor vehicle accidents were over the legal blood alcohol limit.

Question 2

In the UK, people with alcohol misuse must not drive and must notify the DVLA. Their licence will be refused or revoked until there has been a period of controlled drinking or abstinence, and normalisation of blood parameters. What is the minimum duration for group 1 car or motorcycle licences?

- a. 3 months
- b. 6 months
- c. 9 months
- d. 12 months
- e. 24 months

Answer b. The licence will be refused or revoked until after a minimum of 6 months (for group 1 car or

motorcycle licences) or 1 year (for group 2 bus and lorry licences) of controlled drinking or abstinence, and normalisation of blood parameters for both groups.

Question 3

To assess alcohol intake over a longer time span, ethyl glucuronide (EtG) can be measured in hair samples, with 1cm of hair representing a 1-month period. Which one of the following EtG concentrations is thought to provide clear evidence for excessive and regular alcohol consumption?

- a. >3pg/mg
- b. >7pg/mg
- c. >13pg/mg
- d. >17pg/mg
- e. >30pg/mg

Answer: e. EtG concentrations >7pg/mg provide strong evidence for regular alcohol intake and >30pg/mg clear evidence for excessive and regular alcohol consumption.

Question 4

Transferrin is a glycoprotein made in the liver that transports iron throughout the body. Each molecule has several carbohydrate chains with sialic acid end groups, some of which are lost after heavy drinking. In people who are not heavy drinkers what is the most abundant form of transferrin?

- a. monosialotransferrin
- b. disialotransferrin
- c. trisialotransferrin
- d. tetrasialotransferrin
- e. pentasialotransferrin

Answer: d. The forms of transferrin are named by the total number of terminal sialic acid residues. Tetrasialotransferrin has four residues and is the most abundant form, while disialotransferrin (two residues) usually constitutes <2%.

Question 5

Which one of the following scenarios can carbohydrate deficient transferrin be used to identify?

- a. Sustained heavy drinking within the past 24 hours
- b. Sustained heavy drinking within the past week
- c. Sustained heavy drinking within the past 3 weeks
- d. Sustained heavy drinking within the past 13 weeks
- e. Sustained heavy drinking within the past 26 weeks

Answer: c. CDT identifies sustained heavy drinking within the past 2–5 weeks.