

JOURNAL-BASED LEARNING EXERCISES



Each article's contents should be read, researched and understood, and you should then come to a decision on each question. The pass mark is 17 out of 20 questions answered correctly. JBL exercises may be completed at any time until the published deadline date. Please select your choice of correct answers and complete the exercises online at: ibms.org/go/practice-development/cpd/jbl

DEADLINE WEDNESDAY 6 SEPTEMBER 2017

Strategies to control hepatitis B: public policy, epidemiology, vaccine and drugs. Locarnini S, Hatzakis A, Chen DS, Lok A. <i>J Hepatol</i> 2015; 62 (1 Suppl): S76–86. Assessment No: 060617		Healthcare Science Apprenticeships. www.nshcs.hee.nhs.uk/news/item/361-new-healthcare-science-apprenticeship-programme and <i>within it</i> www.gov.uk/government/uploads/system/uploads/attachment_data/file/586614/Apprenticeship_Standard_L6_Healthcare_Science_Practitioner.pdf . Assessment No: 060917	
01	There is approximately 70% chance that an infant born to a mother with hepatitis B virus (HBV) infection and a serum hepatitis B surface antigen (HBsAg) viral load of over 9 log ₁₀ copies per mL will not be infected with this virus perinatally.	01	Employers should work with higher education providers to implement HCS apprenticeships as of September 2017.
02	Complete elimination of HBV from infected individuals through antiviral chemotherapy is possible using currently available treatments.	02	The HCS apprenticeships available are level 2, 4 and 6.
03	The policy of universal infant vaccination against HBV has been implemented in over 90% of WHO member states, and this includes all developed countries.	03	Assessment for any standard is via an end-point assessment.
04	The Risk Evaluation of Viral Load Elevation and Associated Liver Disease (REVEAL-HBV) study showed that chronic HBV carriers with low HBV DNA viral loads were about twice as likely to develop cirrhosis as people who did not have HBV infection.	04	The Healthcare Science Practitioner (HCSP) standard expects the apprentice to be able to apply leadership capabilities.
05	Data from Taiwan have indicated that the incidence of hepatocellular carcinoma in patients who are HBsAg-positive, hepatitis B 'e' (HBe) antigen-negative is less than a third of that among patients who are HBe antigen-positive.	05	The HCSP standard does not mention HCPC standards of ethics.
06	After 30 years of universal childhood vaccination in Taiwan, rates of HBsAg positivity within the vaccinated populations have decreased by over 90%.	06	The standard expects students to develop skills in audit and quality improvement.
07	HBV viral load is the only factor considered in the decision of whether to start a patient with chronic HBV infection on a course of antiviral chemotherapy.	07	The standard is specifically designed for the life sciences only.
08	The reported prevalence of HBV infection in adults is less than 5% in Russia.	08	It is anticipated the level 6 apprenticeship will take three years to complete.
09	Anti-HBV nucleoside/nucleotide analogues are effective in reducing HBV viral activity, but they cannot be considered as therapy to alleviate existing liver damage such as fibrosis.	09	All HCS end-point assessments are written and available.
10	HBV was discovered serendipitously by Blumberg and colleagues, who were working on immunological interactions between unrelated patients, and the finding was reported in 1965.	10	Teaching of health and safety and risk assessment are outside the scope of the standard.
11	According to data published in 2010, the estimated number of deaths per annum from HBV infection is less than half the number from HIV infection.	11	The standard covers CPD and undertaking appraisals.
12	Evidence suggests that the number of people affected by chronic viral hepatitis around the world has been consistently overestimated, and most people have a good understanding of the disease.	12	Taking personal accountability and responsibility for one's own practice is explicitly noted.
13	HBV isolates classified in genotype F have not so far been found in Europe.	13	There are no numeracy or linguistic criteria required to enter an apprenticeship.
14	The 'immune reactive' phase of chronic HBV infection is characterised by high HBV DNA viral load and normal liver function tests.	14	It is down to employers how they go about taking on apprentices.
15	Patients who are HBsAg-positive, anti-HBe antigen-positive, with a low serum viral load and an HBV virus in genotypes C or D have been consistently found to respond best to pegylated interferon therapy.	15	An outcome of the level 6 apprenticeship will be to be able to write Standard Operating Procedures.
16	More than 10% of individuals who acquire HBV as adults develop chronic infection.	16	The standard does not require apprentices to be able to demonstrate skills in presentation to others.
17	HBV DNA becomes integrated into the host hepatocyte genome, and this is how viable virus particles continue to be produced.	17	Level 6 apprentices are expected to be able to demonstrate skills of critical thinking.
18	Renal disease can be a complication of HBV infection itself and some antiviral chemotherapeutic agents used to treat it.	18	The standard does not anticipate that apprentices will have to be able to write grant applications.
19	The estimated prevalence of chronic HBV in 2005 was greater than that calculated for 1990.	19	The apprenticeship route ends with eligibility to register with the Academy for HCS-accredited register only.
20	Studies suggest that most patients treated with nucleoside or nucleoside inhibitors for prolonged periods do not clear HBV permanently.	20	The standard requires apprentices to develop skills in training and supervision.
REFLECTIVE LEARNING			
01	Critically discuss the United Kingdom's policy on hepatitis B vaccination in light of evidence from other countries' programmes.	01	How do you perceive the level 6 apprenticeship pathway to differ from the current route to qualification for biomedical scientists in terms of the skills and abilities the apprentice should possess at the end of the programme?
02	Discuss how hepatitis B virus escape mutants may affect vaccine efficacy and the specificity of standard tests intended to detect the virus in patients' serum samples.	02	What do you think the impact of apprenticeships will be on the future development of the workforce in biomedical sciences, and will this be beneficial or detrimental?