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BTEC Level 3 Nationals in Sport and Exercise
Science

Unit 13: Nutrition for Sport and Exercise
Performance (31824H)



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What is a grade boundary?

A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade (Distinction, Merit, Pass and Near Pass). The grade awarded for each unit contributes proportionately to the overall qualification grade and each unit should always be viewed in the context of its impact on the whole qualification.

Setting grade boundaries

When we set grade boundaries, we look at the performance of every learner who took the assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark should be for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments

Each test we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each test, because then it would not take into account that a test might be slightly easier or more difficult than any other.

Grade boundaries for this, and all other papers, are on the website via this link: qualifications.pearson.com/gradeboundaries

Unit 13: Nutrition for Sport and Exercise Performance.

Grade	Unclassified	Near Pass	Pass	Merit	Distinction
Boundary Mark	0	17	24	31	39

Introduction

This was the second series of the new specification. The method of external assessment was by a task based approach. More learners sat the external assessment compared to the first series.

The question paper followed the same format identified in the sample assessment material and the summer 2017 series with a nutritional programme provided as part A and then part B contained unseen information regarding the client details, their sport and the phase of the even that they were in. There are three activities based on the part A and part B information each of which is marked using a levels based approach, where the overall quality of the response is considered rather than identifying individual marking points.

Introduction to the Overall Performance of the Unit

It should be noted that for this series, the standard of learner evidence was at a lower level compared to the first series despite the fact it is a task based assessment and therefore has the same questions and mark scheme as the previous series.

There was a wide spread of marks, learners were able to achieve marks in the top grade band, as well as more learners than expected falling into the low grade band. The scripts showed that learners could organise their time to assess the information provided in the part B and then provide structured and coherent answers in the two and half hours of allocated time.

Individual Questions

Activity 1

In this activity learners had to interpret the nutritional programme for Ola in relation to her health and wellbeing.

Good responses provided nutritional analysis of the percentage of macro nutrients consumed on a daily basis and compare these to recommended amounts.

The table below shows the types of information learners could research after having received part A.

Day	Total Cals	CHO %	CHO g	Fat %	Fat g	Protein %	Protein g	Activity
Monday	2790	43	300	48	150	9	60	1.5 hrs
Tuesday	2450	33	200	48	130	19	120	1 hr
Wednesday	2730	40	270	43	130	17	120	1.5 hrs
Thursday	2730	44	300	43	130	13	90	1 hr
Friday	2860	35	250	44	140	21	150	1.5 hrs
Saturday	2460	33	200	51	140	16	100	3 hrs
Sunday	2750	36	250	49	150	15	100	Rest

As the client was eating more calories than required on a daily basis, analysis related to grams of each macronutrient intake would have been misleading and would have shown that the client was consuming too much of each macronutrient. However, a percentage analysis shows that they are consuming insufficient carbohydrates and protein intake is occasionally too low. Fat intake is consistently too high from analysis of either grams consumed on a daily basis or percentage intake.

Where learners did relate this to health and wellbeing it was usually related to eating too much fat and a brief link to Coronary heart disease or high blood pressure.

It is expected that further interpretation of the client information should be included in the interpretation of the food intake including:

- Body Mass index which was 29 and therefore classed as overweight.
- BIA was at 38% which is classed as obese.
- Basal metabolic rate could then be worked out using the Harris Benedict equation to work out the calorie intake for the person based on their specific details:

$BMR = 655.1 + (9.563 \times 65 \text{ kg}) + (1.85 \times 150 \text{ cm}) - (4.676 \times 14 \text{ years}) \times \text{activity levels}$.
A range of activity levels factors were permitted from 1.725 to 1.55 depending upon how active the learners deemed the client.

This left the BMR at between 2568 to 2307 kcals.

The balance of food groups (grains, fruit and vegetables, protein, dairy, fats and sweets) was discussed by some learners in relation to the nutritional analysis and/ or the Food pyramid and/or the Eat well plate.

The impact of food preparation on the nutritional composition of food was also discussed by many learners in relation to macronutrient content, however, the impact on health and wellbeing was often a very brief identification if mentioned at all.

Fluid intake was referred to by many learners in relation to recommended daily amounts and types of fluids consumed, however, many learners stated that the client was drinking too much water and was at risk of hypernatremia which is incorrect.

It should be noted that the focus of this question is on health and wellbeing, learners who did well in this activity did include information how Ola's health and wellbeing could have been affected from her nutritional programme.

Lastly, the factors affecting digestion and absorption of nutrients and fluids should have been commented on in relation to the nutritional programme for the individual with some reference to the timings of food intake and activity levels and timings of the individual

Learner responses were marked by gaining a mark in one of three grade bands:

Grade band 1: 1-5 marks

Grade band 2: 6-10 marks

Grade band 3: 11-15 marks

Grade band 4: 16-20 marks

This response was placed in Band 4: and gained 18 marks out of 20

1. Interpret Ola's current nutritional programme, in relation to nutritional intake for health and wellbeing.

Ola is a 14-year-old gymnast who is training for a competition in six weeks. We can see from looking at her nutritional programme that she has a BMI of 28.8 which is classed as overweight/pre obese when comparing it to the national average. The shows that if her nutritional programme continues in the way it could have an impact on her health and wellbeing therefore impacting her sporting performance. The one thing that needs to be considered when looking at BMI is that it doesn't take into consideration lean muscle which most gymnast have a lot of to help with their performance. However, when looking at her BIA which is her body composition we can see that it is 38% fats and therefore backs up the BMI result.

The reason for Ola's high BMI could be down to the number of calories she is eating in relation to her Basal metabolic rate (BMR). This is because her BMR is 1488.48 calories which is the number of calories she needs to eat to function on a day to day basis. This does not take into consideration her physical activity levels which is why you need to use the Harries – benedict equation to work out her total energy expenditure giving a more accurate amount of calories she needs per day. When completing the equation, I found that the total energy expenditure was 2307.44 calories per day. However, when looking at Oal nutritional programme I found that she went over this limit everyday ranging from 143 calories to 482 over per day meaning she is eating more calories than needed which will store as fat. This is not good as could affect her health due to the fact the extra calories she eats are not getting used up and there for are getting shorted as fats which could put her at risk of things such as Heart disease later in life or becoming obese as she is already classed as pre obese from her BMI Result. She is also way over the Eat well guide daily recommendations for females which is 2000 calories per day.

Staring with looking at her carbohydrate intake through the week and comparing it with the recommended daily allowance RDA we can see that Oal is not making this standard. The RDA states the carbohydrates should make up at least 50% of the diet which isn't happening at all through the week in Oal nutritional programme. For example, on Monday 43% of her food intake is carbs which is 7% lower than the RDA. Carbohydrates are the main source of energy for the body as they are store as glycogen at the muscle and help produce ATP for exercise. By not making the RDA it will result in Oal feeling very tired and not having the energy to train, this could affect her health and wellbeing as she will constantly feel fatigued and therefore not be able to recover properly after her training making her more likely to get ill due to a decreased immune function. The day she has the lowest carbohydrate intake is Saturday as it makes up only 32.5% of her food intake that day. This day would be the most important day to meet the RDA as she has performed every day that week without a rest day and not meeting the RDA meaning her body will have low glycogen stores and her will be performed to a low standard as she will not have the energy to perform well.

Moving on to Protein, the RDA is that it should make up at least 20% of the diet and is only met once through the week by Oal. The day she meets the RDA is Saturday when protein makes up 21% of her food intake that day. She is also close to making the RDA on Tuesday as she eats 19.4% of protein in her food intake which is only 0.6% off. The rest of the weak she is low on the RDA and the lowest amount of intake of protein is on Monday when she only eats 8.6% of protein which is way under the RDA. As Oal is a gymnast she will rely on strong muscle to help her perform and develop forward but due to the lack of protein in her diet her muscle will not strengthen and therefore this will prevent from getting stronger. This could affect her wellbeing as she became too weak it could prevent her from completing everyday tasks such as lifting a box.

The fat intake in Oal diet was the only thing to make the RDA through the week. The RDA for fat intake is that it should make up at least 30% of the diet, which Oal was over every day. However, Oal made the RDA she was making it by a large amount and at is most 21% greater than needed, which was on Saturday. This means that she is intake to much fat which would explain her BMI and BIA score. This excessive fat intake if carried on could cause her to become obese and have dramatic affects health and wellbeing, this is so as the extra weight will put extra stress on her joints whilst taking part in gymnastics and could result in a stress fracture of the lower leg for example. Fat is an important RDA to meet as it is used to insulant the body to keep warm however the amount of fat Oal is in taking is to great.

The RDA for fluid intake is 6-8cups or 2-2.5 litres per day. Oal makes this RDA every day during her nutritional programme and as a result will have positive effects on her health and welling being e.g. more blood with oxygen and nutrients is being carried to the muscles and temperature regualtion. Within her fluid intake she will have fruit juice, a sports drink and water. The water will take 30minutes to absorb and me digested into the blood stream whereas the other drinks will take around 45mintures. Oal some days will have around 4 litres of water plus two other drinks. Much like the fat intake she is going over the RDA by quit a lot and need to be careful that she doesn't get water hyponatremia through drinking too much water and therefore drowning the organs. This isn't too much of a concern as she is performing exercise and therefore some of the water will be lost through sweat and respiration.

Finally, when looking at the timing of the food and how it is prepared. We can see that she always eats her dinner at 6pm which is 30 minutes after her gymnastics training. This is good as it will help recover, however previously to this her last meal was at 1pm so will have to wait 5 hours before she can next eat. This means that by the time she gets to gymnastics her glycogen stores from the food are already used up and therefore will have little energy resulting in them taking longer to replenish. It does however allow time for the food to digest and absorb as that should take around 2-3 hours so she is not at risk of getting stomach cramps from eating too late before training. A lot of the food she eats is fried which make the food fatty and may account for her high fat intake. These fatty foods could cause an increase in cholesterol levels affecting her health and therefore making her more likely to have a stroke in the future.

The response includes correct BMR calculations with additional calorie intake related to activity levels has been provided. BMI has been discussed and the fact it does not take into account high muscle mass, however, the BIA has then been referred to which confirms that the high BMI is due to excess body fat rather than muscle mass. The learner has provided a correct analysis of the percentage of each macronutrient consumed across the nutritional programme and compared these to RDA. Links to health and wellbeing have been provided in relation to excessive consumption of some macronutrients and insufficient consumption of others where appropriate. Fluid intake has been covered briefly, however, the part on hypernatremia and organs 'drowning' has not been credited. Links to absorption and digestion has been provided, some are a little brief but the concepts of these process are included. No discussion has been included on food preparation or the lack of fruit and vegetables in the clients diet.

This means that the learner has not achieved full marks, however, they have achieved marks in band 4 and gained 18 marks for this response.

This response was placed in Band 2: and gained 7 marks out of 20

Interpret Ola's current nutritional programme, in relation to nutritional intake for health and wellbeing.

(20) 7

Firstly, I can see that Ola has a lot of calories for her age and from looking at her nutritional programme she is ~~intaking~~ taking the calories from the wrong type of foods. She eats rather unhealthy food that contain high amounts of fat. ^{From an activity of Ola's} A female should be eating around 70 grams of fat a day. Ola ~~is~~ is eating a minimum of 130 grams of fat per day and a maximum of 150 grams of fat some days which is over double the recommended daily allowance for fat intake for a woman. Her average fat intake over the week for one day is 140 grams which ~~roughly~~ means Ola is getting 1260 calories per day just from fat which is about 40-45 per cent of her calorie intake where ~~is~~ ideally Ola's ~~total~~ fat intake would be 30-35% of her daily calorie intake.

Also, from working out Ola's ~~BMR~~ Basal Metabolic Rate (BMR) I noticed that she is intaking a minimum of 2450 calories per day and a maximum of 2860 calories per day which is nearly double Ola's Basal Metabolic Rate which is 1488 calories per day. Then on top of the Basal Metabolic Rate,

Ola does exercise 6 days per week which in the Total Energy Requirement, Ola is classed as doing heavy exercise which is her BMR $\times 1.725 = 2568$ calories. This means that after all the exercise Ola undertakes, her daily caloric intake ~~is~~ is not too high as she burns a lot of calories off over the ~~course~~ duration of the week. However, many improvements can be made to her diet to ensure that Ola eats healthier and gets the needed calories from the right types of food.

I can also see that Ola drinks a sufficient amount of water each day as she drinks between 3-4 litres of water per day which is an adequate amount after taking into consideration her daily amount of exercise and the fluid she will lose from sweat and urine. The eatwell plate says to drink roughly 6-8 cups of fluid each day, which Ola does sufficiently.

I do notice that Ola lacks on her fruit and vegetables as the eatwell plate states that, "Eat at least 5 portions of fruit and veg every day". So an improvement can be made on this to ~~the~~ her nutritional programme, for example on Tuesday the only portion of fruit or veg Ola has is 1 portion of Carrots.

This response correctly identifies that excessive fat is consumed and also provides a review of the BMR of the client related to their calorie intake. They however have not taken into account the BMI and BIA of the client which clearly show that she has excessive body fat as the learners states that the client will burn off the excess calories from the exercise that she takes part which is incorrect. No reference to the

impact on health and wellbeing associated with excessive fat intake has been provided.

Reference to fluid intake has been provided with RDI related to the eatwell plate – again, no reference to health and wellbeing provided as to why this much fluid should be consumed. Insufficient intake of fruit and vegetables has been noted, however, no reasoning as to why this is an issues for health and wellbeing has been provided.

Very little knowledge and understanding related to food intake and relevance to health and wellbeing was demonstrated in this response, the learner also did not utilize all the information about the client such as BIA to support the interpretation of food intake meant that response received marks in band 2.

This response received 7 marks.

Activity 2

Nutritional strategies are provided in the unit content in learning Aim D. It is therefore expected that learners will select an appropriate strategy for the client based on their event.

For this activity, learner's needed to focus on gymnastics. The client is categorized as overweight/obese so nutritional strategies should include weight loss as carrying excess body fat is detrimental to gymnastics performance. The learner should also consider other nutritional demands required for gymnastics which is power/strength.

On the whole, learners did struggle with this question and many provided daily modifications to improve the client's diet rather than summaries of overall modifications across the diet. The daily modifications often concentrated on reducing fat intake as this was noted as being too high but the learners rarely then went on to explain that this was for weight loss purposes which would then be beneficial to the clients sporting event.

Learners could have also noted that carbohydrate intake should be increased as well as protein intake. Some learners did provide calculations to recommend protein intake and carbohydrate intake. Supplements were occasionally suggested such as protein shakes, powders, branched chain amino acids (BCAA) to increase protein intake.

Good responses to this question did discuss weight loss strategies and negative energy balance. Supported modifications were provided with reasoning for each modification related to weight loss.

Learners responses were marked by gaining a mark in one of four grade bands:

Grade band 1: 1-5 marks

Grade band 2: 6-10 marks

Grade band 3: 11-15 marks

Grade band 4: 16-20 marks

This response was placed in Band 3: and gained 17 marks out of 20

2. Modify the nutritional programme, based on nutritional strategies, in relation to Oal's sports event.

Oal is training for a gymnastics competition in six weeks and she will be competing on balance beam, uneven bars, vault and floor routine. The nutritional strategies that I think will be best for Oal is weight loss. This is because the events she will be doing will put large amounts of stress on the body without the extra weight adding to that. The best way to help weight loss is to decrease the amount of fat intake or to have a negative energy balance but maintain sufficient macronutrients. As Oal's fat intake is high it will be easy to start by decreasing the amount she has. Looking at Oal's snacks she often has something fatty like a doughnut or chocolate. Instead of these items she could swap them for a piece of fruit such as an apple or orange as that will decrease the fat she is intake and increase the number of nutrients and vitamins she is having. This will also help her to meet the eat well guide 5 a day recommendation which is currently doesn't meet throughout the week and sometimes has no fruit or vegetables making her micronutrient stores low.

Another factor is that she has quite a lot of white bread and full fat yogurt for breakfast and saturated fats involved in her diet. Saturated fats are when less the one is without a hydrogen bond and are easily broken down and stored as fats. These are things such as ice cream, fatty meats and fried foods which all appear in Oal nutritional programme they also have a high calorie content which if cut can help weight loss. Oal should replace these saturated fats with unsaturated which are healthier and have less calories, these are things such as avocados, salmon, walnuts and olive oil. Some of these unsaturated fats such as avocados and salmon do already appear in Oal diet but it is about making them more present and replacing the saturated fats with them. An example of where this could be done is swapping the fatty meats such as lasagne and a meat feast pizza for a piece of salmon or haddock, this will reduce fat intake and allow more nutrient and vitamins to be intake. Easy adaptation to lose fat from Oal diet is to change the full fat yogurt to fat free yogurt as the same nutrients are being eaten just within the fat. It's the same with the white bread, as by changing this to brown/wholegrain it will lower fat intake and calorie intake and is better for you as it is a source of fibre.

Along with lowering fat intake Oal needs to increase her carbohydrate intake and protein intake to meet the RDA and therefore have more energy for when competing and training leading up to the competition. She can do this by adding more complex carbs into her diet compared with simple. Simple carbs are things such as sugars and are easily digested and absorbed providing quick energy e.g. a slice of cake. These simple carbs often contain high amounts of fat and contain lots of calories also so is great with helping to cut down the fat intake. Complex carbs which she wants to be eating in her diet are things such as pasta and potatoes which provide large quantities of glucose and provide slow release of energy over a prolonged amount of time. This will also help with her meal timings when she has a 5-hour gap between meals as it will keep releasing energy over this time. An example of where she could increase carbohydrate intake would be on Tuesday where she could swap battered fish for something like a chicken pasta as it will increase carbohydrate and protein intake.

Looking at the protein intake that needs to be up, there is 20 amino acids that the body needs in order for protein synthesis to occur and help repair and build the bodies tissues and give a source of energy. 8 out of the 20 amino acids are essential and then 12 and non-essential. Food that contain all 8 are things such as eggs, meat, fish and milk and these are what Oal needs to introduce to her diet. Food that don't contain all 8 are things such as cereals, nuts and seeds. By introducing these sources of protein containing all 8 essential amino acids it will up protein intake and at the same time lower fat intake e.g. fish is a good low-fat food which is high in protein. Another option which could be used to increase protein would be to start taking protein shakes as they only provide protein therefore increasing the content without needing to eat food helping to control calories intake and will help to increase Oal muscle strength and size therefore increase performance. The one down side to this is that protein shakes can become contaminated with bad substances such as steroid which the world anti – doping agency might test for at Oal competition and they for could result in a ban. This is why it is better to intake protein through food and not supplements but would be an option if Oal kept failing to meet her protein RDA.

The day that OI has good food preparation are Monday dinner, Friday dinner and Saturday dinner. This day's dinners are example of the best way to prep food as they involve steaming and stir frying and not things like frying or roasting. This way no micronutrients are lost and they food doesn't

become fatty. These styles of food prep I would recommend to be used every day as they will lower fat content which is needed for the weight loss and increase the micronutrients helping Oal become healthier. Overall by applying these modifications to the nutritional programme it will allow Oal to lose weight over the 6 week period previous to the competition and therefore helping to improve her performance. This is due to decreased fat content eaten and only eating the amount of calories she needs. This is because she will have less weight to move around when performing feeling such as the vault and need less force to take off. It will also reduce the stress put on her body when doing things such as a floor routine as less weight and therefore for stress will be put on her joints and limbs. The decrease in will also in the long term will prevent her from getting things such as heart disease or high cholesterol.

The response is relevant to the individuals sporting event and the justifications for the modifications are all related to weight loss and increasing protein and carbohydrate intake.

Direct reference has been made to the gymnastics event and problems associated with carrying excess body fat have been provided. Suggested modifications for reducing fat intake such as food preparation methods or changing the snacks consumed are realistic and have been explained and justified. Methods and reasoning as to why increasing carbohydrate and protein intake have been included as well as suitable supplements for increased protein intake together with links to the clients sporting event. Some inaccurate information has been included related to protein shakes becoming contaminated by steroids which has not been credited.

This response gained 9 marks out of 20.

Ola's sport, gymnastics, is very physically demanding. Based on her current nutritional programme she doesn't intake enough carbohydrates. She could change this by removing some of her fat intake, ~~on Monday~~ such as on Monday she could remove the doughnut and 2 chocolate biscuits and replace them with a complex carbohydrate such as a slice of brown bread or some pasta. This will provide Ola with more energy throughout the day as complex carbohydrates are broken down slowly providing a long energy source for Ola. This will improve her gymnastics training session as she will have more energy available for a longer period of time. She could do this on everyday of the week replacing a fat food with a complex carbohydrate which would bring up the amount of carbohydrates closer to what she is recommended to have.

On Monday Saturday and Sunday she has fried egg and fried bacon for breakfast. When preparing the food, she should grill the food or boil the food. This will keep the good nutrients in and won't add fat to the food like frying it will do. This will help reduce her fat intake and make sure that she gets all the right nutrients she wants. This will be beneficial as this will mean that less fat will be stored in her body so this won't hinder her performance as much as she will have less useless weight to carry in her body.

To benefit Ola in gymnastics it would be helpful for her to lose ~~fat~~ some of the fat from her diet. Although fat is an essential nutrient Ola should try to stay away from saturated fat as these are the worst for her and her gymnastics. Like the full fat yogurt she has on Tuesday and Thursday which could be swapped for low fat yogurt.

A nutritional strategy that would benefit Ola would be carbohydrate loading. The aim of carbohydrate loading is to increase the muscles capacity to store glycogen above the normal level. This helps delay any fatigue that she may have otherwise been feeling during the event. This strategy is best used in the lead up to an event. A supplement that could be used to aid carbohydrate loading is energy gels as these are easy to consume and are a quickly digestible source of carbohydrates which will help Ola keep her carbohydrate intake where she needs it.

When deciding on drinks she should stick to water but try to lower the amount that she has to keep around 3.8 litres ~~or~~ or less. Then before she is training she could have an isotonic or hypotonic drink to make sure she is hydrated but also gets some sugar to provide her with energy. She would have a hypertonic drink after her training to restore her glycogen levels and she could try to implement ~~her~~ ^{or reduce} ~~her~~ ^{blood pressure}.

This response provides a contextualized explanation as to why more carbohydrates are required for gymnastics and examples of ways to increase carbohydrate intake are included - however, substituting a snack such as a doughnut for pasta would not be a realistic substitute.

Changes in food preparation methodology are provided but no reasoning as to why reducing fat intake has been provided other than because it will result in less fat being stored in the body. Reference to calorie content of fat and changing food preparation methods to reduce fat content of foods should have been included to demonstrate a full understanding of the suggested modification.

The information related to fat intake is related to health and wellbeing rather than the clients sport.

The nutritional strategy provided is carbohydrate loading which is not at all appropriate for a gymnastics event so no credit was given here.

Fluids intake has been referenced and links to sports drinks is relevant to the clients sporting event.

Activity 3

In Activity 3 learners had to focus on Part B of the case study and recommend nutritional guidance for the individual in relation to the individual based on the phase of the event that the individual is taking part in.

The phase of the event is stated as 'during the event'. Additional information was provided to make it clear that this was on the day of the event and the event took place on a Saturday between 10 am and 4pm. Any information related to what the client consumed before or after the event was not given credit as the phase is during the event.

The part of the specification that this activity relates to is D3 – Nutritional intake during different phases of the event and related to the following content:

- Types of food to be consumed and timings:
- Fluid intake
- Supplements where appropriate.

For a full day gymnastics event key areas learners were expected to write about included:

- Types of food to be consumed and timings
- Sports drinks
- Simple carbohydrates to prevent stomach cramps and nausea
- Add small amounts of protein reduce time to fatigue – ration 3:1 Carbs:protein
- 30-60 g CHO per hour to delay glycogen depletion
- Fluid intake
- Supplements – energy gels, glucose tablets, protein shake/powder

Learners responses were marked by gaining a mark in one of three grade bands:

Grade band 1: 1-3 marks

Grade band 2: 4-7 marks

Grade band 3: 8-10 marks

This response was placed in Band 3: and gained 8 marks out of 10

ola is in the "during event phase" of her Sport gymnastics. ola should aim to consume simple carbs such as sweets (jelly beans) and hypotonic sports drink as they are quickly absorbed but don't contain a lot of energy. ola needs foods which are quickly absorbed and high in energy. ola before the event should ensure that glycogen levels were well stocked and ensure that her body was well hydrated.

At During event phase which ola is in she must consume carbs (simple carbohydrates not complex) to avoid her muscles from getting cramps. ola needs during her event simple carbs with a low absorption time such as sweets and sports drinks either isotonic or hypotonic. isotonic have a moderate absorption time and have a moderate amount of energy. however hypotonic is quickly absorbed but with less energy.

As ola does gymnastics which involves a lot of flips and complicated twists and moves ola needs something that absorbs quick as she might feel sick performing. After ola's event she should aim to eat complex carbohydrates.

As these replenish glycogen levels, one should also consume protein to repair the muscle fibres broken during the event.

The main function in the during event phase by consuming fast releasing energy as it gives muscles and the body instant energy to use when continuing the event. However in gymnastics the athlete needs to consume foods which digest quickly to avoid athletes from becoming nauseous.

The response includes timings and types of foods as well as a range of suitable fluids that could be consumed. Links to absorption and digestion are clearly provided together with specific reference to the phase of the clients sporting event.

Very few learners included any reference to key areas of the specification related to hormonal control of blood sugar and water balance – this is of particular relevance when considering control of blood sugar levels and choices of food or fluid intake for 'during the event' phase and would need to be included to gain full marks in this activity.

This response was placed in Band 1: and gained 3 marks out of 10

Before the event starts or pre-event it is no time to be experimenting with different foods, ~~you~~ or Ola needs to just stick to familiar foods that she knows are nice and have a good ~~effect~~ effect on her. They should provide adequate amounts of carbs, protein and fats so she can perform at her best throughout the event. These meals should aim to ~~top up~~ top up her muscle and liver glycogen stores. In terms of her fluids she needs to make sure she is ~~fully~~ fully hydrated so she can be fully focused throughout the whole ~~event~~ event.

During the event isotonic drinks ~~should~~ should be consumed. Also energy gels ~~in~~ in between little breaks ~~are~~ because it is an easy way to get ~~a~~ energy into ~~your~~ her body allowing her to perform for longer durations at a good ~~best~~ level.

After the event has finished she needs to fully rehydrate herself to replace all of the fluid that has ~~ex~~ exited her body.

The response is quite generic stating that foods consumed should contain adequate amounts of carbs, proteins and fats. No links to which foods should be consumed related to topping up liver and muscle glycogen stores but knowledge has been shown that these stores are important.

Isotonic drinks have been recommended as well as energy gels both of which are appropriate foods and fluids for during the event with generic links to increasing energy related to the event. No information has been provided in relation to how much of each should be consumed and timings.

Summary

Learners are encouraged to:

- Read and analyse the nutritional programme in relation to macro nutrient content. Percentage intake for each macronutrient should be assessed in relation to RDAs
- Research any foods that are not familiar to find out the nutritional content and how food preparation may affect the nutritional composition of foods
- Be prepared to carry out calculations in part B in relation to BMI and BMR of the client and use this information in the activities to justify the interpretation of nutritional programme and modifications
- When answering questions refer to the nutritional programme and individual as much as possible and make sure that the content you refer to is actually in the case study
- Use the assessment criteria in the mark scheme for each activity to guide them and ensure they cover all the content needed for each activity

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