



Prepare Food to meet Special Dietary Requirements

SITHCCC018

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Overview

This unit describes the performance outcomes, skills and knowledge required to prepare dishes for people who have special dietary needs for health, lifestyle or cultural reasons. It requires the ability to confirm the dietary requirements of customers, use special recipes, select special ingredients and produce food to satisfy special requirements.

This unit does not include menu planning for special diets which is covered in the unit SITHKOP004 Develop menus for special dietary requirements.

The unit applies to cooks and patissiers working in hospitality and catering organisations. This could include restaurants, educational institutions, health establishments, defence forces, cafeterias, kiosks, cafes, residential caterers, in flight and other transport caterers, and event and function caterers.

It applies to individuals who work under the guidance of more senior chefs. They demonstrate autonomy and judgement to complete routine activities and take limited responsibility in known and stable contexts within established parameters.

Pre-requisite Unit

SITXFSA001 Use hygienic practices for food safety

In this unit we will cover the following topics.

Learning Outcomes

In this unit we will be covering the following topics,

1. Confirm special dietary requirements and select ingredients
2. Prepare foods to satisfy nutritional and special dietary requirements
3. Present prepared food

Introduction

As an employee in a commercial food operation it is a large part of your role to prepare and serve customers with quality food products; be they for breakfast, lunch, dinner or simply a snack with a cup of coffee.

Not all customers are the same however and they will have different requirements in the food they order and you will need to understand these requirements and prepare dishes accordingly.

You will also be required, in your role, to have a basic understanding of nutritional information relating to the foods you serve, as outlined in the Australian Dietary Guidelines¹. These guidelines cover 5 individual aspects of dietary needs including;

Guideline 1 - *To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs*

- Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly.
- Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.

Guideline 2 - *Enjoy a wide variety of nutritious foods from these five food groups every day:*

- Plenty of vegetables of different types and colours, and legumes/beans
- Fruit
- Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
- Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans
- Milk, yoghurt, cheese and/or their alternatives, mostly reduced fat
- And drink plenty of water.

Guideline 3 - *Limit intake of foods containing saturated fat, added salt, added sugars and alcohol*

- a. *Limit intake of foods high in saturated fat such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.*
 - *Replace high fat foods which contain predominately saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominately polyunsaturated and monounsaturated fats such as oils, spreads, nut butters/pastes and avocado.*
 - *Low fat diets are not suitable for children under the age of 2 years.*
- b. *Limit intake of foods and drinks containing added salt*
 - *Read labels to choose lower sodium options among similar foods.*
 - *Do not add salt to foods in cooking or at the table.*
- c. *Limit intake of foods and drinks containing added sugars such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.*

- d. If you choose to drink alcohol, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.*

Guideline 4 – Encourage, support and promote breastfeeding

Guideline 5 – Care for your food; prepare and store it safely

In order to provide the best possible food, you must also have a sound understanding of;

- basic principles and practices of nutrition including;
 - nutrients and their food sources
 - role of good nutrition in avoiding dietary diseases
 - effects of various cooking methods and food storage on nutrients
- how food choices are influenced and their health implications
- food additives, preservatives and labelling

We will examine all of these topics in more detail as we move through the unit.



¹ <https://www.eatforhealth.gov.au/guidelines/australian-dietary-guidelines-1-5>

Confirm special dietary requirements

As discussed in the introduction, not all customers will like or be able to eat the same types of food. Indeed, they might have special requirements for a number of different reasons – some of them quite serious and the way in which their food is prepared, and the ingredients you will use, may be very different to the methods and products you use in more general dishes.

While there will be some foods that cross over into several categories, variations for special dietary requirements customers might have can fall into categories including;

1. Medical
2. Lifestyle Choices
3. Cultural and Religious
4. High Risk Groups

The reasons why customers make these choices can vary greatly and due to the serious nature attached to food choices, we will spend some time now looking at each of these categories in detail.

Medical Dietary Requirements

Some customers will make their food choices based on medical issues they face. These issues might have to do with allergies and intolerances; they may have high or low blood pressure; they may have diabetes or cholesterol issues, to name only a few. In order to be able to enjoy a meal out with friends and family, people with such issues must be very careful about the foods they eat.

Food Allergies and Intolerances

A food allergy occurs in around 1 in 20 children and in about 1 in 100 adults (in NSW). That's approximately 65,000 children and 96,000 adults. In fact, Australia has one of the highest allergy prevalence rates in the world. Food allergy and food intolerance are types of 'food sensitivity' and both can make a person feel unwell.

If you have a **food allergy** this means your immune system reacts to a particular food. This causes symptoms within two hours, such as itchiness, rash and swelling. If someone has a severe food allergy this can cause a life-threatening reaction called anaphylaxis (dealt with later in this section).

The most common food ingredients that can cause an allergic reaction include (but are not limited to);

- Crustaceans
- Eggs
- Soybeans
- Milk
- Peanuts
- Sesame seeds
- Tree nuts (cashews, almonds, walnuts etc)
- Fish

All these allergens, as well as gluten (from wheat, rye, barley, oats and their products) and sulphites (which are added to food as a preservative), are required by law to be declared on food labels or, where foods are exempt from labelling, the information must be provided on demand.

INGREDIENTS		NUTRITION INFORMATION	
SUGAR, FULL CREAM MILK POWDER, WHEAT FLOUR, COCOA BUTTER, VEGETABLE FAT (ANTIOXIDANT [309]), COCOA MASS, COCOA, EMULSIFIERS (SOYA LECITHIN, 476), YEAST, RAISING AGENT (SODIUM BICARBONATE), SALT, FLAVOURS, GLUCOSE SYRUP (DERIVED FROM WHEAT OR CORN). MADE ON EQUIPMENT THAT ALSO PROCESSES PRODUCTS CONTAINING NUTS. CONTAINS 70% MILK CHOCOLATE AND 30% WAFER FINGERS.		SERVINGS PER PACKAGE: 1 AVG QTY PER SERVING	SERVING SIZE: 45 g AVG QTY PER 100 g
ENERGY	980 kJ		2180 kJ
PROTEIN	3.2 g		7.1 g
FAT, TOTAL	12.1 g		26.9 g
- SATURATED	7.8 g		17.4 g
CARBOHYDRATE	27.8 g		61.7 g
- SUGARS	22.7 g		50.5 g
SODIUM	45 mg		100 mg

Symptoms of food allergy are;

MILD TO MODERATE	SEVERE
<ul style="list-style-type: none"> • Swelling of lips, face, eyes • Hives or welts • Tingling mouth, abdominal pain, vomiting 	<ul style="list-style-type: none"> • Difficulty or noisy breathing • Swelling of tongue • Swelling or tightness in throat • Difficulty talking or hoarse voice • Wheeze or persistent cough • Loss of consciousness or collapse • Pale and floppy (young children)

Food intolerance, on the other hand, doesn't involve the immune system. Food intolerance is an adverse reaction to a particular food. The symptoms can be unpleasant and in some cases severe but are generally not life-threatening;

- Stomach and bowel upsets
- Bloating
- Headaches and migraines
- Wheezing and a runny nose
- Hives
- Generally feeling under the weather

There are many different types of food that people can be intolerant to but the most common include milk and lactose (the sugar in milk), gluten, wheat, food preservatives, and naturally occurring compounds in food such as caffeine, salicylates, amines and glutamate.

Lactose intolerance

Lactose, or milk sugar, is found only in the milk of mammals and is the main carbohydrate found in milk and other dairy products.

Lactose intolerance is a commonly diagnosed adverse reaction to cow's milk among adolescents and adults. The main symptoms of lactose intolerance include flatulence, bloating, diarrhoea and abdominal pain and these symptoms are caused by undigested lactose passing from the small intestine into the colon.

Once an individual is diagnosed as lactose intolerant, complete avoidance of dairy products is not always necessary; with careful experimenting, it is possible to find out the amount of lactose that can be tolerated without adverse symptoms.

In the case of mild intolerance, moderating milk intake, taking milk with meals and, where possible, replacing fresh dairy products with fermented dairy products might be enough to keep the intolerance symptoms under control. Live yogurts are usually better tolerated than fresh milk products by people with a lactose intolerance because the live yogurt bacteria have their own form of lactose that can aid lactose digestion in the colon.



Hard cheeses, such as Cheddar, Emmental, Edam and Parmesan, contain very little or no lactose at all so, if symptoms occur, even with very small amounts of lactose (2-3g lactose / 100g food), hard cheeses can still be included in the diet to provide calcium. Lactose-reduced milks available in supermarkets can be used in place of standard milk.

People who are very sensitive to lactose should be aware that lactose is widely used as an ingredient in many ready-made meals and other food products. Such individuals are advised to check the food labels for ingredients and to look for other milk-derived ingredients that might contain lactose as a component, such as whey powder and dried skimmed milk.

As milk and milk products are important sources of many essential nutrients, such as protein, calcium and riboflavin, avoidance of dairy products is not advised without good reason, and then appropriate dietary modifications need to be made to ensure that nutrient deficiencies do not arise. For example, if alternative sources of calcium are not consumed, intake may be sufficiently low to compromise bone health.

Food additive intolerance

Food additives play an important part in our food supply ensuring our food is safe and meets the needs of consumers. Food additives can be used to:

- Improve the taste or appearance of a processed food. For example, beeswax - glazing agent may be used to coat apples to improve their appearance.
- Improve the keeping quality or stability of a food. For example, sorbitol - humectant may be added to mixed dried fruit to maintain the moisture level and softness of the fruit.
- Preserve food when this is the most practical way of extending its storage life. For example, sulphur dioxide - preservative is added to some meat products such as sausage meat to limit microbial growth.

Many substances used as additives also occur naturally, such as vitamin C or ascorbic acid in fruit, or lecithin which is present in egg yolks, soya beans, peanuts and maize. The human body cannot distinguish between a chemical naturally present in a food and that same chemical present as an additive.

Food additives only affects a very small number of children and adults. The additives most commonly linked to food intolerance are artificial colours, and preservatives such as sulphites and benzoates; the preservatives commonly found in wine and dried fruit. Food additive reactions may cause asthma, rashes, irritable bowel syndrome and headaches in sensitive people.

Gluten Intolerance

Gluten is a protein found in wheat, rye, barley and oats and in foods made from these grains. In the past few decades the rise in high gluten wheat has resulted in a rise of coeliac disease as a major cause of ill health. Coeliac disease is an extremely severe bowel inflammatory response caused by an allergy to parts of the gluten proteins. The impact on the gut is severe, with significant damage to the delicate lining that aids in normal gut function. The current and only effective solution is a **gluten free diet**. For people with coeliac disease, this means exceptional vigilance as gluten is found in trace amounts in many foods.

Even gluten free alternatives, such as oats, can become contaminated in the production process. Gluten can be hidden in flavourings and modified food starches and is used as a binding agent in some supplements and vitamins. Coeliac disease has a wide range of complications and symptoms from abdominal pain to diarrhoea, bowel irritability, iron deficiency anaemia and increased risk of osteoporosis. These symptoms also occur in many people

who do not show the small allergic signs of coeliac disease; this is covered by Irritable Bowel Syndrome (IBS). IBS is a syndrome because the causes are not yet known.



Cholesterol

Blood cholesterol is a fatty substance found in the blood and is often referred to as blood fat or blood lipid (the medical term). High total blood cholesterol is a major risk factor for heart disease; the higher the total blood cholesterol level, the higher the risk of heart disease. There are two types of cholesterol; LDL (bad cholesterol) and HDL (good cholesterol).

Cholesterol in food (dietary cholesterol) has only a small effect on LDL cholesterol while saturated and trans fats in food cause a much greater increase in LDL cholesterol. High total blood cholesterol can gradually clog the blood vessels that supply blood to the heart and other parts of the body. If a blood clot forms in the narrowed blood vessel and completely blocks the blood supply to part of the heart, it can cause a life-threatening heart attack. Eating healthy fats helps the cholesterol balance by decreasing LDL and increasing HDL.

Fats

It's important to have some fat in meals as fat helps the body to absorb vitamins. It's also a good source of energy and of the essential fatty acids that the body can't make. While fats are an essential part of a healthy balanced diet you should avoid consuming too much saturated and trans fat; too much saturated and trans fat contributes to the build up of fatty material (plaque) on the inside of blood vessels (arteries). This process is called atherosclerosis and is a major cause of heart disease. Saturated and trans fats increase LDL cholesterol in blood, which leads to plaque. Polyunsaturated and monounsaturated fats, however, reduce LDL cholesterol and increase HDL cholesterol.

- **Saturated fat** - Saturated fat is a type of fat that raises LDL cholesterol in your blood, which increases your risk of heart disease. The majority of saturated fat comes from full fat milk and cheese, prepared potatoes (such as potato patties, potato salad, mashed potato and hot chips), pastries, meat and butter. Some plant foods, such as palm and coconut oils and their products, palm kernel oil, coconut milk, coconut cream and copha, also contain high levels of saturated fat and should be avoided. Many fast foods and take-away foods, commercial cakes, doughnuts, pastries and fried foods can contain high levels of saturated (and trans) fat because of their ingredients and the type of oils used to cook them.

- **Trans fat** - Trans fat is a type of unsaturated fat that behaves like a saturated fat because of its chemical structure. There are two types of trans fats.
 - Naturally occurring trans fats - are caused by the way that some animals, such as cattle, sheep and goats, digest their food (the ruminating process). They are found in small amounts in dairy products, beef, veal, lamb and mutton.
 - Artificial, synthetic, industrial or manufactured trans fats - Industrially produced trans fat is formed during the partial hydrogenation of liquid oils to semi-solid fats. Fats used in the food industry, such as for deep frying and pastry dough, may contain some trans fat. In the supermarket, you will most likely find trans fat in baked products, including pies, pastries, cakes, biscuits and buns. Trans fat is also found in fats used to fry fast food and in some take-away meals. Most margarines in Australia now have very low or trace levels of trans fat.
- **Monounsaturated fat** - Monounsaturated fat helps to lower LDL cholesterol if you follow a healthy balanced diet low in saturated fat. Examples of foods containing higher amounts of monounsaturated fats include fish, tahini, avocados, margarine spreads based on olive and canola oils, canola oil, olive oil, pine nuts, hazelnuts, almonds, cashews, peanuts, macadamias, pecans and pistachios.
- **Polyunsaturated fat** - All polyunsaturated fat helps to lower LDL cholesterol levels in the blood, which in turn reduces the risk of heart disease. There are two different types of polyunsaturated fats that influence heart health omega-3 and omega-6.
 - Omega-3 fats come from marine, animal and plant sources. It is important to include all of these sources as part of a healthy balanced diet to lower your risk of heart disease. Marine omega-3 is found primarily in oily fish, such as Atlantic and Australian salmon, blue-eye trevalla, blue mackerel, gemfish, canned sardines, canned salmon and some varieties of canned tuna. Other fish such as barramundi, bream and flathead, and seafood, including arrow squid, scallops and mussels, are also good sources of omega-3.
 - Omega 6 polyunsaturated fat includes; polyunsaturated margarine spreads, vegetable and seed oils, such as canola, sunflower, soybean, peanut and sesame oils, nuts, such as walnuts, pecans, peanuts, brazil and pine nuts, seeds, such as sunflower seeds and fish.

Carbohydrates

Carbohydrates are an ideal source of energy for the body. This is because they can be converted more readily into glucose, the form of sugar that's transported and used by the body, than proteins or fats can. Even so, a diet too high in carbohydrates can upset the delicate balance of the body's blood sugar level, resulting in fluctuations in energy and mood which can leave a person feeling irritated and tired.

There are two types of carbohydrate: complex and simple.

Complex carbohydrates

Complex carbohydrates are often referred to as starch or starchy foods. They are found naturally in foods and also refined in processed foods. Complex carbohydrates as natural starches are found in:

- bananas
- barley

- beans
- brown rice
- chickpeas
- lentils
- nuts
- oats
- parsnips
- potatoes
- root vegetables
- sweet corn
- wholegrain cereals
- wholemeal breads, cereals, flour and pasta
- yams.

Complex carbohydrates as refined starches are found in:

- biscuits, pastries and cakes
- pizzas
- sugary processed breakfast cereals
- white bread
- white flour
- white pasta
- white rice.

Simple carbohydrates

Simple carbohydrates are also known as sugars. They also exist in either a natural or refined form.

- Natural sugars are found in fruit and vegetables.
- Refined sugars are found in:
 - biscuits, cakes and pastries
 - chocolate
 - honey and jams
 - jellies
 - brown and white cane sugar
 - pizzas
 - prepared foods and sauces
 - soft drinks
 - sweets and snack bars.

All carbohydrates form glucose, when digested, which is then transported around the body via blood and taken into cells to be converted into energy. The *pancreas gland* in the abdomen secretes the hormone insulin, which controls the uptake of glucose by your cells. If there is any excess glucose, this is converted into glycogen – which is stored in the liver or in fat around the body.

When the body needs more energy, a second hormone called glucagon is secreted by the pancreas. This converts the glycogen back into glucose, which is then released into the bloodstream for cells to use.

This means the body's glucose (sugar) metabolism is a cycle of glucose, insulin and glucagon reactions.

- The slower the release of glucose and hormones, the more stable and sustainable the energy levels of the body.
- The more refined the carbohydrate, the faster the glucose is released into your blood. This can cause peaks and drops in your blood sugar level and less stable energy levels in the body.

Complex carbohydrates provide a slower and more sustained release of energy than simple carbohydrates. In their natural form they contribute to long-term good health, appetite control and sustained energy levels.

Fiber

Fiber comes from plant foods so there is no fiber in animal products such as milk, eggs, meat, poultry, and fish. Fiber is the indigestible part of plant foods, including fruits, vegetables, whole grains, nuts and legumes. When you consume dietary fiber, most of it passes through the intestines and is not digested.

For good health, adults need to try to eat 25 to 30 grams of fiber each day, however most of us only get about half of what is recommended.

Fiber contributes to digestive health, helps to keep the bowel regular, and helps to make you feel full and satisfied after eating.

Good sources of dietary fiber include:

- Beans and legumes. Think black beans, kidney beans, pintos, chick peas (garbanzos), white beans, and lentils.
- Fruits and vegetables, especially those with edible skin (for example, apples, corn and beans) and those with edible seeds (for example, berries).
- Whole grains such as:
- Whole wheat pasta
- Whole grain cereals (Look for those with three grams of dietary fiber or more per serving, including those made from whole wheat, wheat bran, and oats.)
- Whole grain breads (To be a good source of fiber, one slice of bread should have at least three grams of fiber. Another good indication: look for breads where the first ingredient is a whole grain. For example, whole wheat or oats.) Many grain products now have "double fiber" with extra fiber added.
- Nuts — try different kinds. Peanuts, walnuts and almonds are a good source of fiber and healthy fat, but watch portion sizes, because they also contain a lot of calories in a small amount.

Type 1 or 2 Diabetes

In general, people with diabetes either have a total lack of insulin (type 1 diabetes) or they have too little insulin or cannot use insulin effectively (type 2 diabetes).

- **Type 1** diabetes accounts for 5 to 10 out of 100 people who have diabetes. In type 1 diabetes, the body's immune system destroys the cells that release insulin, eventually eliminating insulin production from the body. Without insulin, cells cannot absorb sugar (glucose), which they need to produce energy.

- **Type 2** diabetes can develop at any age. It most commonly becomes apparent during adulthood. Type 2 diabetes accounts for the vast majority of people who have diabetes-90 to 95 out of 100 people. In type 2 diabetes, the body isn't able to use insulin the right way. This is called insulin resistance. As type 2 diabetes gets worse, the pancreas may make less and less insulin. This is called insulin deficiency.

People with diabetes are advised to follow the Australian Dietary Guidelines; eating the recommended amount of food from the five food groups will provide the nutrients they need to be healthy and prevent chronic diseases such as obesity and heart disease.

Managing diabetes can be managed by

- Eating regular meals and spreading them evenly throughout the day
- Eating a diet low in fat (particularly saturated fats)
- Taking insulin or diabetes tablets (where needed) between meal snacks
- Limiting foods high in energy such as take away foods, sweet biscuits, cakes, sugar sweetened drinks and fruit juice, lollies, chocolate and savoury snacks.
- Recognizing that everyone's needs are different and that not all sufferers will react the same. If in doubt about what type of food ingredients to include in the preparation of a dish; always ask.

The ingredients you use in any of the above cases (among other medically based choices) will have to be carefully vetted and should be listed on your menu. If, for example, a dish was prepared using peanut oil and this was not disclosed then a customer with a severe peanut allergy could, potentially, die without ever knowing that there was peanut oil in the meal they ate. So if a customer advises you that they have an allergy or intolerance then you need to make sure that **no ingredient**, in their meal, will cause them problems.



Lifestyle Choices in Dietary Requirements

Along with medical and cultural reasons, some customers may simply have lifestyle choices that dictate what they will, or will not, eat. Some of these include;

Vegetarian and Vegan

Most **vegetarians** do not eat meat, fish, or poultry, but they tend to consume dairy products and **eggs**. Many vegetarians also do not eat products that contain gelatin or other animal-based products. **Lacto-vegetarians** consume dairy products, but not eggs; **Ovo-vegetarians** eat eggs, but not dairy products; and **Lacto-ovo-vegetarians** eat eggs as well as dairy products.

The **vegan** diet tends to be much stricter than most vegetarians' diets. Meat, fish, poultry, dairy, eggs, and all other animal-based products, like honey, are entirely avoided. Moreover, any food or other (sometimes inedible) product that makes use of animals is avoided. This often extends to clothing, medicines, and anything else in which animals or animal products are used. For example, a vegan would not use leather shoes or belts, cosmetics that have been tested on animals, down comforters, gelatin medicine capsules, woolen sweaters, or fur coats.

Fruits, vegetables, grains, and nuts are staples of both the vegan and vegetarian diets and sometimes tofu is used as a replacement for meat-based products.

Weight and healthy living choices

People who are watching their weight, fat and energy intakes will often opt for menu items that offer;

- Low kilojoules
- Fat free options
- Low or high Carbohydrates
- High or low energy foods
- High or low protein foods

There can be any number of different reasons for their choices and a good restaurant or café should always be in a position to accommodate customer requests wherever possible.

Cultural Dietary Requirements

Just as there are customers who must be careful of what they eat for health reasons, there are also customers who are required, for cultural and religious reasons, to be mindful of the food they eat. Two main examples that you may need to accommodate in your working life are Kosher and Halal.

Kosher

Kosher foods are items approved by "kashrut", the body of Jewish law that supplies the guidelines for food preparation. Not all Jews follow these guidelines, but if they do, they are said to "keep kosher." Jewish dietary laws maintain certain rules for preparing foods that are not common in modern food preparation. A brief overview of a kosher diet follows;

- Meat - Land animals that have cloven hooves and chew their cud may be eaten. Any land animal that does not have both of those qualities is forbidden. Milk and other products from forbidden animals are also forbidden.
 - Kosher: Cows, goats, sheep, bison, deer
 - Non-kosher: Pigs, camels, rabbits, rodents, reptiles, insects, camel's milk
- Seafood - Seafood that has both fins and scales may be eaten. Shell fish, however, are forbidden.
 - Kosher: Carp, salmon, white fish, tuna
 - Non-kosher: Cat fish, sword fish, crab, lobster, shrimp, oysters
- Poultry - Birds of prey and scavengers are forbidden. Other birds are permitted.
 - Kosher: Chicken, turkey, duck, goose
 - Non-kosher: Ostrich, hawk, owl, stork

- Dairy - Dairy cannot be eaten at the same time as meat or poultry, but it can be eaten with fish. Even a very small quantity of dairy or meat in a dish makes it *entirely* dairy or meat for kosher purposes. Three to six hours must elapse between eating dairy and meat.
 - Kosher: Cream cheese with lox, milk with eggs
 - Non-kosher: Cheeseburger, milk with chicken
- Grape Products - Because wine and grape juice are used for religious purposes, grape-derived products must be made following strict guidelines that cover growth, harvest and production, and they must be made by Jews.
 - Kosher: Kosher grape juice, kosher wine, whole grapes
 - Non-kosher: Fruit drinks containing non-kosher grape juice, products sweetened with non-kosher grape juice
- Slaughtering - Kosher meats and poultry must be slaughtered by a butcher who is well educated in '*kashrut*'; a specific method used for slaughter. The method involves slitting the animal's throat with a sharp knife; the animal then bleeds out quickly, resulting in a fast death that is considered the most humane. Certain body parts, of the animal, are not allowed for consumption despite the animal source being kosher.
- Utensils - Utensils must also be kosher; each utensil or piece of cookware is reserved for a specific type of food. Utensils, cookware, plates, flatware, dishwashers, dishwasher, and towels that were previously used for a non-kosher food item may not be used for a kosher food item. Cooks must also maintain separate cookware and utensils for dairy and meat.

Hinduism

As the world's oldest and third-largest religion, Hinduism promotes natural, simple living as a path to physical and spiritual purity. The Hindu diet varies by region; some adherents are strict vegetarians, while others eat meat hunted locally. Hindu dietary customs are based in the belief that the body is composed of fire, water, air and earth, and that the food you eat can either balance these elements or throw them out of balance.

Food Types

All food falls into one of three categories, and the weight each category lends to the diet varies according to local custom;

- *Sattvic* foods are considered ideal, and are the only foods eaten in certain customs. Fruits, vegetables, whole grains and nuts are considered Sattvic, and are thought to cleanse the mind and body, increasing inner tranquility. Animal products and pungent or spicy foods like chili peppers and pickles are considered
- *Rajasic* foods, which are thought to heighten intense emotion and promote restlessness.
- *Tamasic* foods are thought to promote negative emotions, and include foods that are stale, spoiled, overripe or otherwise inedible.

Vegetarianism is commonly associated with the Hindu diet, but the majority of Hindus consume some type of animal products. While vegans refuse any food that comes from an animal, some Hindus will eat dairy products, fish and shellfish or even poultry. Pork is even consumed in regions where wild boar has historically provided a ready food source in lean times. The majority of Hindus don't eat beef (cows are seen as "The Mother") but beef is consumed in small pockets of Hindu.

Hindus practice fasting for spiritual reasons on holy days, but the practice varies according to local custom and individual preference. Some adherents forgo all nourishment, others drink only juice, and still others limit themselves to a single meal per day. Fasting is seen as a spiritual and physical "reset" that will ultimately enhance the body's condition. Rest is encouraged, and proponents take this time to practice self-control and exert power over mental suggestion. A spiritually successful fast should not lead to the urge to binge when the fast is broken.

Halal

Muslims around the world practice the religion of Islam. The practice of Islam includes observing dietary laws which come from Islamic teachings. Islamic dietary laws define foods that are 'halal', meaning *lawful or permitted*.

Muslims avoid food and beverages that are 'Haram', meaning *not permitted*. So when we are talking about *halal* foods it means any foods that are allowed to be eaten according to Islamic Sharia law; complying with the religious ritual and observance of this law. For example; all animals must be slaughtered in a ritual way known as *Zibah* (or *Zibahah*). This is a complex process, briefly however;

- An animal should not be dead prior to slaughter
- A Muslim should perform slaughter
- Any flowing blood of the carcass should be completely drained

Food can be forbidden in Islam if it includes:

- blood
- alcohol
- meat or any products from a forbidden animal, including pigs and any carnivorous animals or birds of prey
- meat or any products of an animal which has not been slaughtered in the correct manner in the name of Allah



Examples of permitted and forbidden foods include;

Halal Foods (Permitted Foods)	Haram Foods (Not Permitted)
Grain Products	
<ul style="list-style-type: none"> ✓ Rice ✓ Pasta ✓ Any grain product, such as bread, breakfast cereal or baked goods prepared without Haram ingredients 	<ul style="list-style-type: none"> ✗ Any grain products prepared with Haram ingredients such as alcohol, animal shortening, lard or pure and artificial vanilla extract (see page 4)
Vegetables and Fruit	
<ul style="list-style-type: none"> ✓ All vegetables and fruit: raw, dried, frozen or canned. ✓ All vegetables and fruit cooked or served with water, butter, or vegetable oils ✓ All juices 	<ul style="list-style-type: none"> ✗ Any vegetables and fruit prepared with alcohol, animal shortening, bacon, gelatin, lard or some margarines which contain monoglycerides or diglycerides from an animal source
Milk and Milk Products	
<ul style="list-style-type: none"> ✓ Milk ✓ Yogourt, cheese and ice cream made with bacterial culture or microbial enzymes, e.g. microbial rennet 	<ul style="list-style-type: none"> ✗ Cheese, yogourt, ice cream, frozen tofu desserts made with animal rennet, gelatin, lipase, pepsin, pure or artificial vanilla extract or whey
Meat and Alternatives	
<ul style="list-style-type: none"> ✓ Meat and poultry slaughtered according to Islamic dietary law (Zabihah) ✓ Seafood ✓ Nuts, seeds ✓ Tofu ✓ Dried beans, peas and lentils ✓ Eggs ✓ Peanut butter ✓ Halal deli meats 	<ul style="list-style-type: none"> ✗ Pork and pork products, e.g. bacon, deli meats, ham and sausage ✗ Meat and poultry not slaughtered according to Islamic dietary law ✗ Canned beans, peas and lentils containing pork ✗ Any meat and meat alternative dish prepared with alcohol, pork products or animal shortening
Other	
<ul style="list-style-type: none"> ✓ Beverages: carbonated drinks, fruit juice, punch, cocktails, tea and coffee ✓ Fats and oils: butter, margarine, mayonnaise, vegetable oils and some salad dressings ✓ Miscellaneous: chutneys, coconut milk, jam, pickles, spices ✓ Desserts made with agar and/or carrageenan base only ✓ Sweeteners: honey, sugar, syrup, chocolate liquor (roasted ground cocoa bean syrup) 	<ul style="list-style-type: none"> ✗ Beverages: beer, wine, alcohol, liqueur ✗ Fats and oils: animal shortening, lard ✗ Miscellaneous: chocolates/candies made with alcohol or pure or artificial vanilla extract ✗ Desserts made with gelatin ✗ Sweeteners: chocolate liqueur (made from alcohol)

High Risk Groups

There are certain 'risk' groups among the population where food choices and a good diet can have far reaching effects. These groups include children and infants, older people and pregnant women.

- Children / Infants - Infants, children and adolescents need sufficient nutritious food to grow and develop normally. Maintaining a positive energy balance and adequate nutrient intake is critical in achieving and sustaining normal growth and development.
- Older People – In order to counteract the signs of aging and a decreasing metabolism, older people need to eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight. The diet of older people is generally more varied than that of younger groups. However some older people are at increased risk of consuming monotonous, limited diets due to such factors as reduced mobility, poor dentition and poverty, which may reduce access to a range of fresh foods.

- **Pregnant Women** - In order to look after their own health, during pregnancy, and the health of their child, pregnant woman should limit the intake of foods containing saturated fats, added salt, added sugars and should avoid alcohol. Consuming a variety of nutritious foods is particularly important during pregnancy and while breastfeeding. Quality nutritious dietary patterns during pregnancy may reduce the risk of babies being small for their gestational age or exhibiting restricted intrauterine foetal growth, or being large for their gestational age, and may also help reduce the risk of pregnant women developing pre-eclampsia. Quality nutritious dietary patterns before and during pregnancy may also help reduce the risk of women developing gestational diabetes mellitus.

Source: Australian Dietary Guidelines

Main types, culinary characteristics and ingredients of special diets

We have already discussed quite a few of the main characteristics surrounding special dietary needs. In addition to those covered, however, there are other contemporary eating regimes that include;

- **elimination diet** – an elimination diet is used to learn whether or not certain foods may be causing a person health problems or making them worse. People who are on an elimination diet will ask to have certain ingredients in a dish taken out. This may affect the taste and texture of the dish so, again, appropriate substitutes may be called for.
- **macrobiotic diet** – this is a system that can be used to create extraordinary health. This is done through using both traditional wisdom and modern knowledge to determine the underlying causes of an individuals current health challenges, and make adjustments to their food and lifestyle choices that support health improvement.



Liaise with others to clarify requirements.

When preparing food for special dietary needs you may first need to clarify aspects of the preparation process and the particular ingredients you will need (especially if it involves halal or kosher foods). In the first instance you may find information in your recipe card, however other sources of information may include (but are not limited to):

- Dieticians who have a particular expertise in food products, their composition, nutrients and the best way of combining them to achieve specific purposes
- Medical staff who can advise on specific health related issues and how certain foods will affect a persons well being – and on the drugs they must use (covered shortly)
- Cultural organisations that can offer advice on the best methods of purchasing and preparing ingredients for specific dietary needs.



ACTIVITY 2

Research sources of dietary information. For example; Dieticians and Cultural Organisations in your local area that could be useful in your future career. Keep this research in your portfolio of useful information.

Potential health consequences of overlooking special dietary requirements

With an understanding of the way in which dietary requirements can vary between customers you must also be aware of the potential consequences of ignoring or not paying attention to customer requests.

As you have learned, customers may have both health, cultural and religions reasons for making special requests and these should **never** be taken lightly. People with food allergies, for example, can go into shock and, (possibly) die if only a minute amount of food to which they are allergic is present in their food.

Key health consequences of failing to address special requirements

The consequences, then, of failing to address special requirements can be severe and can result in allergic reactions (as discussed previously), the worst of which is anaphylaxis.

Anaphylaxis

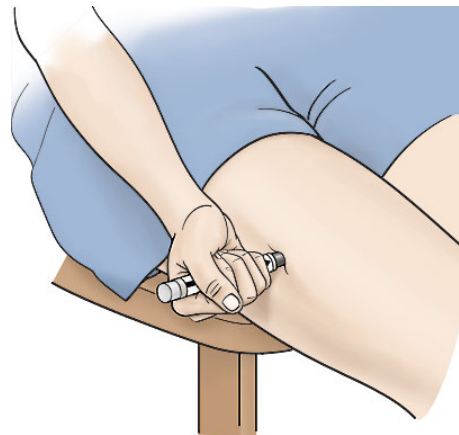
Anaphylaxis is an extreme and severe allergic reaction. The whole body is affected, often within minutes of exposure to the substance which causes the allergic reaction (allergen) but sometimes after hours. Common causes include foods such as peanuts, tree nuts (e.g. almonds, walnuts, cashews, and Brazil nuts), sesame, fish, shellfish, dairy products and eggs.

Non-food causes include wasp or bee stings, natural latex (rubber), penicillin or any other drug or injection. In some people, exercise can trigger a severe reaction — either on its own or in combination with other factors such as food or drugs (e.g. aspirin). Symptoms of a severe allergic reaction include;

- generalised flushing of the skin
- nettle rash (hives) anywhere on the body
- sense of impending doom
- swelling of throat and mouth
- difficulty in swallowing or speaking
- alterations in heart rate
- severe asthma
- abdominal pain, nausea and vomiting
- sudden feeling of weakness (drop in blood pressure)
- collapse and unconsciousness

Treatment for a severe reaction

In most cases people who suffer from such severe food allergies will carry appropriate medication with them, that can help them overcome a food allergy reaction; Adrenaline auto-injectors are prescribed for those believed to be at risk. Adrenaline (also known as epinephrine) acts quickly to constrict blood vessels, relax smooth muscles in the lungs to improve breathing, stimulate the heartbeat and help to stop swelling around the face and lips. As time is of the essence in the event of a severe reaction, this medication often comes in formats (such as Epi-pens) that are easy to apply.



YouTube Video – What is Anaphylaxis

Explains what happens during an anaphylactic episode and the steps you can take to assist.



Link; <https://youtu.be/ZtaYgWTLIXE>

Food and Drug/Medication interaction

It is also useful to have an understanding of how certain foods might react with drugs or medications that a customer may be taking. A drug-food interaction happens when the food you eat affects the ingredients in a medicine you are taking so the medicine cannot work the way it should.

Drug-food interactions can happen with both prescription and over-the-counter medicines, including antacids, vitamins and iron pills. Not all medicines, however, are affected by food, but many medicines can be affected by what you eat and when you eat it. For example, taking some medicines at the same time that you eat may interfere with the way your stomach and intestines absorb the medicine. The food may delay or decrease the absorption of the drug. This is why some medicines should be taken on an empty stomach (1 hour before eating or 2 hours after eating).

On the other hand, some medicines are easier to tolerate when taken with food. Ask your doctor or your pharmacist whether it's okay to take your medicine with a snack or a meal or whether it should be taken on an empty stomach.

Examples of how foods can interact with drugs;

- Aged cheeses, chocolate, smoked meats, and wine are high in tyramine, an amino acid that can cause a sudden, dangerous spike in blood pressure when combined with certain antidepressants (particularly those in the class of MAOI antidepressants, like Marplan and Nardil).
- Black licorice contains a compound called glycyrrhizin that can reduce the effectiveness of blood pressure drugs and diuretics. It can also increase the potency of certain steroids, potentially causing negative side effects.
- Alcohol can interact with a wide range of over-the-counter and prescription medications, typically decreasing the effectiveness of antibiotics and blood pressure and diabetes medications, and intensifying the potency of pain relievers and sleep aids to potentially harmful levels. Combining alcohol with the pain reliever acetaminophen (in Tylenol) can be toxic to the liver, and alcohol with anti-inflammatory medications like ibuprofen and naproxen (in Advil and Aleve) can increase the risk of stomach bleeding. And mixing alcohol with prescription pain medicines (e.g. codeine, oxycodone, morphine) can have serious consequences, including coma or even death.
- Milk and dairy products can inhibit the absorption of certain blood pressure medications and antibiotics, consequently reducing their effectiveness. Eliminating dairy altogether may not be necessary, though; talk with your pharmacist to find out if foods like milk, cheese, yogurt, and ice cream may be consumed if it's at least one hour before or two hours after taking the medication.
- Soy can slow thyroid function, and can interfere with thyroid medications, so let your physician and pharmacist know if you consume soy-based products on a regular basis.
- Grapefruit and grapefruit juice can interact with more than 80 medications, including cholesterol-lowering statin drugs, blood pressure medications, and antihistamines. Depending on how the medication is metabolized, grapefruit can reduce the effectiveness, or worse, result in potentially dangerous drug levels in the body. As little as one cup of grapefruit juice or two grapefruit wedges can cause trouble with certain medications. And Seville oranges (often used in marmalade) and tangelos (a cross between tangerines and grapefruit) also contain furanocoumarins (the compound in grapefruit that's responsible for drug interactions), so you may need to avoid these as well, if your medicine interacts with grapefruit juice.

- Leafy greens like kale, spinach, broccoli, Brussels sprouts, and cabbage are rich in vitamin K, which plays a role in clot formation and, as a result, can decrease the effectiveness of blood thinners like Coumadin (warfarin). But taking Coumadin doesn't mean that leafy greens are entirely off limits. As long as you consistently consume about the same amounts of vitamin K-rich foods every day, your doctor can prescribe Coumadin accordingly.

Key legal consequences of failing to address special requirements

In addition to the health risks of not paying attention to special dietary requests there may also be legal consequences of failing to address them. These may include (but are not limited to);

- A breach of hygiene and/or workplace health and safety legislation (which places duty of care upon you) can result in a health and safety inspection, heavy fines or penalties, or even a loss of business license.
- Legal action being taken against the organization, and possibly yourself, if it could be shown that you were negligent in accommodating specific dietary requests and this negligence resulted in harm coming to a guest.

The organization may also suffer a loss of reputation which, in turn, could lead to the closing down of the establishment.

So it is essential that all special dietary requests from customers are taken seriously; this news article spells out very clearly why;

<http://www.abc.net.au/news/2016-05-24/restaurant-owner-jailed-over-peanut-allergy-death/7441064>

An Indian restaurant owner in Britain has been jailed for the manslaughter of a customer who died from anaphylactic shock after eating one of his curries.

Paul Wilson's death caused by eating a curry cooked with groundnut mix. Another customer had a similar reaction at restaurant linked to Mohammed Zaman. Prosecutor said Zaman put profits before customer safety Paul Wilson, 38, who was diagnosed with a severe peanut allergy as a child and knew the dangers of ingesting even the tiniest amount of peanuts, ordered a takeaway chicken masala from Mohammed Zaman's North Yorkshire restaurant two years ago and specifically asked for no nuts. But the chicken masala he was given was cooked with a groundnut mix containing peanuts. He went into anaphylactic shock and was found slumped in his bathroom that night. He died a short time later.

Mr Wilson's friend Joe Kinsella said it was a shocking waste of life. "The worst thing about it is the needlessness of his death," he said. "Perhaps it could have been avoided, and he could still be with us today." Zaman was found guilty of Mr Wilson's manslaughter and sentenced to six years' jail. Prosecutors said the sentence was a lesson to all those in the catering industry that they have a duty of care to their customers.

ACTIVITY 3

Describe the signs you would look for in a person suffering from an allergic reaction to food and explain what you should do, should you recognize those signs.

Access special dietary recipes

As with all food preparation, until you are completely comfortable with the dishes you serve, it is best to use your organisation's recipes. This will help you assemble ingredients and maintain portion control; a very important aspect of restaurant operations.

Using Recipes

Recipes are used every day in kitchen operations as a guide to preparing the foods served to customers. A standardised recipe is a recipe that has been carefully adapted and tested to ensure that it will produce a consistent product every time it is used. Then, too, a recipe will help you produce a quality dish where you might be unfamiliar with the ingredients and methods needed.

Reasons for using recipes, then, include;

- Consistent Food Quality: recipes help ensure that the best possible food items are produced every time.
- Predictable Yield: Knowing how much of an item the recipe will produce helps prevent food waste and shortages on the serving line.
- Accurate Nutrient Content: recipes help ensure that food quality and nutrients are maintained
- Food Cost Control: When the same ingredients and quantities are used each time the recipe is prepared, the cost per serving remains the same.
- Inventory Control: If a standardized recipe is followed, the quantity of food inventory used each time the recipe is produced can be estimated.
- Labor Cost Control: Written procedures allow workers to make good use of their time and move through their work day more efficiently.
- Employee Confidence: Workers can feel more satisfied and confident as eliminating guesswork decreases the likelihood of mistakes and poor food quality.

Where special dietary foods are required, recipes may need to be adjusted to add/remove specific ingredients. This will be discussed shortly.

Selecting ingredients

All of the specific dietary needs discussed (among others) can call for ingredients or handling of a recipe that is different to the norm. For example;

- specially slaughtered and prepared meats may be needed
- exclusion of certain ingredients normally used in a dish
- adjustments or substitutions of certain ingredients to avoid ingredients that pose a health risk.

So when selecting ingredients this must be done not only in line with the recipe requirements, but also keeping dietary restrictions in mind. This might entail using substitute for ingredients you would normally use. These substitute can include (but are not limited to):

- Gluten-free flour
- Yeast-free flour
- Non-sugar sweeteners
- Soya products such as tofu

The ingredients chosen, however, must still be of the highest quality and freshness.

Identify and exclude harmful ingredients from dishes as requested by the customer.


When selecting ingredients, it is important to review the recipe card and/or the ingredient packaging details for any foods that may pose a health risk to your customers.

As you now know, there are ingredients that can cause harm to customers so it is important to be aware of all the products that a recipe, normally, calls for; even something as innocent as a tablespoon of peanut oil in a salad dressing could, potentially, kill a person with a severe nut allergy. So you need to keep the co-relationship between certain ingredients and the possible reaction people might have to them in mind at all times and, where necessary, exclude them or use alternative products.



ACTIVITY 4

Look at the recipes below and identify the ingredients that might represent a health risk to a person with a gluten intolerance or a nut allergy.




Ingredients

- 2 tbs olive oil
- 1 onion sliced
- 1 garlic clove crushed
- 4 bacon rashers rindless sliced
- 250 g mushrooms
- 1/2 cup white wine
- 300 mls cream
- 1 egg beaten
- 250 g fettuccini

CREAMY PASTA CARBONARA

Ingredients you would exclude;



Ingredients	Nutrition
<input type="checkbox"/> 2 tablespoons vegetable oil	
<input type="checkbox"/> 20 curry leaves (see note)	
<input type="checkbox"/> 1/2 teaspoon dried chilli flakes, or more to taste	
<input type="checkbox"/> 1 cinnamon quill	
<input type="checkbox"/> 1 onion, halved, thinly sliced	
<input type="checkbox"/> 2 cloves garlic, finely chopped	
<input type="checkbox"/> 185g jar Malaysian curry paste (see note)	
<input type="checkbox"/> 800g chicken thigh fillets, trimmed, halved	
<input type="checkbox"/> 2 tablespoons coconut milk	
<input type="checkbox"/> 2 large desiree potatoes, quartered lengthwise	
<input type="checkbox"/> 1 teaspoon sugar	
<input type="checkbox"/> 50g (1/3 cup) unsalted peanuts, roasted, roughly chopped	
<input type="checkbox"/> Coriander sprigs, hard-boiled eggs and steamed rice or roti, (see note) to serve	

MALAYSIAN CHICKEN CURRY

Ingredients you would exclude;

Prepare foods to satisfy nutritional and special dietary requirements

Food is cooked through the application of heat. How this heat is applied will impact on the texture, flavour and nutritional value of the food being prepared. For example; broccoli boiled in water for an extended amount of time will lose much of its flavour, colour and most of its nutrients, whereas the same broccoli *steamed* will retain them. So when cooking food it is important to keep only taste and texture in mind, but also the nutritional value of the food you are preparing.

What is nutrition?

Food affects almost everything we do. It affects how we look, feel, and act. It even affects our abilities; how well we function every day. Food has an impact on life because it supplies nutrients, which are substances in food that body needs to function properly; in growing; in repairing itself, and in having supply of energy. Nutrition is both a pure science and a social science. As a pure science it looks at how the body uses nutrients. As a social science it looks at the relationship between food and human behavior and the environment, or how and why people eat.

Eating a balanced diet is vital for good health and wellbeing; if food provides our bodies with the energy, protein, essential fats, vitamins and minerals to live, grow and function properly. We need a wide variety of different foods to provide the right amounts of nutrients for good health. Enjoyment of a healthy diet can also be one of the great cultural pleasures of life.

The cooking process will have an affect on the nutrients in the food so it is important to prepare foods in such as way that as many of these nutrients as possible are retained. We will look at cooking methods shortly.

Follow recipes to produce dishes for those with special dietary requirements.

Access to a range of recipes is essential for reasons we have previously discussed. A recipe, however, is more than a simple list of ingredients needed to produce a dish. A recipe will provide you with step by step guidance on the methods needed to produce the dish. It will tell you;

- the complete list of ingredients needed; in the order that they will be used
- the equipment you will need to use to produce a dish
- cooking methods needed for each individual component of the dish
- the temperatures needed to cook each component correctly
- the amount of time needed for each component to be properly cooked
- any special instructions or requirements for a particular dish
- it may also tell you how the menu can be modified to suit specific dietary requirements.

Modify menu items to meet different dietary requests

As discussed, it may be necessary to amend a recipe in order to meet customer requirements.

In some cases you may need to remove specific ingredients to suit a particular diet. This might include the removal of salt, sugar or eggs. It might include using substitute ingredients such as;

- gluten free flour
- brown rice instead of white

- food that does not have any additives or colourings
- substituting cows milk for bran, almond or goats milk
- salt reduced ingredients
- yoghurt or oil based salad dressings in place of mayonnaise
- using herbs as flavouring instead of salt
- seed or whole meal breads in place of refined bread
- low fat options

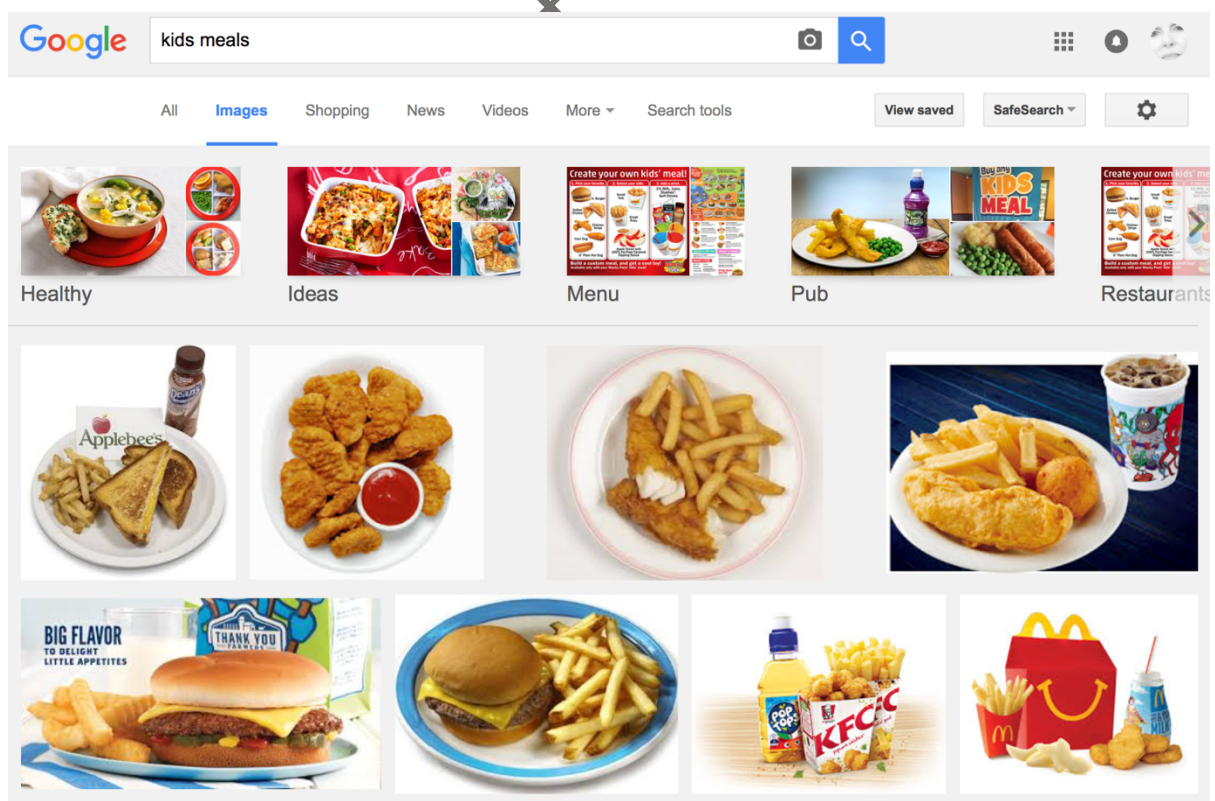
In addition to this, superfoods can be added to add interest and nutrition to a meal. These can include Chai, Acai, Goji Berries and Quinoa.

Cooking for Children

Children are often notoriously difficult to please but they should not be offered 'easy foods' such as spaghetti or chips simply because '*its what kids like*'. Children need a balanced diet in order to grow and develop into strong and healthy adults and foods from the five food groups should, therefore, be included in their daily diets. Such foods can be presented attractively and in fun ways.



A quick search of 'children's meals' brought up the following examples of what is typically offered as food appropriate to children by major food chains. Foods such as these do little to promote good health in children.



Cooking for Older People

Mature years bring with them certain conditions and intolerances that a person may not have had in their younger years; the body's metabolism slows and down and the digestive system is less able to cope with certain types of food. This does not mean that older people should be restricted, suddenly, to a diet of mashed tasteless food, however care will need to be taken to ensure that they are getting the nutrients they need to stay strong and healthy without upsetting the delicate digestive balance.

Modifying the menu and using alternative ingredients is a part of any kitchen operation that wants to please its guests. This should not, however, be done at the expense of flavour, texture or nutrients.

Communicate specific dietary requirements for food preparation

As with any business; communication is the key to any successful operation. This is particularly true in any service based industry where the customer can be paying substantial amounts of money for a service given (rather than a tangible product that they can take home with them); they are in essence paying for an experience.

It will be a large part of your role to ensure this experience is as pleasant as possible. This means letting other members of your team know about any special requirements a guest may have and, if necessary, calling on expert advice to satisfy those needs.

You may be working in a restaurant, a hospital kitchen, a hospice or a school canteen and this means that the people you can call on for assistance and advice may vary slightly. In general however your team members might include;

- allied health professionals who do not necessarily work for your organization but are closely associated with it.
- Dietitians who may be on staff (or allied) who can provide guidance on the dietary needs of groups such as children, the elderly or those with food allergies or intolerances
- family member can be called upon to provide information about patient needs and reactions to certain food types
- health and medical personnel
- religious personnel or organisations to provide advice on cultural or religious food laws and requirements.
- supervisor or manager as well as front of house staff and others kitchen staff.

ACTIVITY 5 - SCENARIO

A customer has just called to make a reservation for this weekend. Her 12 year old daughter is celebrating a birthday and has invited 8 of her friends along to enjoy the day with her. There will also be 5 adults supervising. The mother has asked for a cake to be made for the celebration and advises that the daughter has a nut allergy. You also know that children of that age are often subject to other allergies and food intolerances.

Describe what you will do in terms of questions you should ask and who should be advised. Write a list of the possible dishes that could be served to this small group.

Questions you should ask the mother;

Who should be advised;

Possible list of dishes.

Use appropriate equipment and cooking techniques for specific diets.

The proper preparation of food requires that equipment and cooking methods, appropriate to the dish, are chosen. The way in which the food is prepared will affect its nutritional value so it is important to handle your produce in a way that retains as much of its quality, texture and natural goodness as possible.

How does cooking affect nutrition?

There are many ways of cooking juicy and flavorful food without adding unnecessary extras. While most people today understand the effects of *deep frying* when cooking *healthy* meals, many don't think about how cooking methods affects the nutritional make-up of the food.

Heat can break down and destroy 15 to 20 percent of some vitamins in vegetables — especially vitamin C, folate, and potassium and, as you'll see below, some methods of cooking are more detrimental than others. Studies, however, suggest that certain foods actually benefit from cooking; carrots, spinach, and tomatoes, for



example, heat facilitates the release of antioxidants by breaking down cell walls, providing an easier passage of the healthy components from food to body.

In order to maintain as many of the nutrients in the food products you prepare, then, you need to be aware of the various methods of cooking; the temperatures at which the foods should be cooked at, the timeframe it will take for the food to be 'done' and the affect that the cooking method used will have on the food.

Employ suitable preparation and cooking techniques to retain nutritional values

Cooking methods and equipment have been covered in previous core units so we will not repeat that information here. Instead we will look at how the various cooking methods and times affect the nutritional values of the foods being prepared.

- **Microwaving** - Microwaving may be the healthiest way to cook because of its short cooking times, which results in minimal nutrient destruction. Microwaves cook food by heating from the inside out. They emit radio waves that "excite" the molecules in food, and this generates heat; cooking the food. The way that microwaves cook food generally eliminates the need to add extra oils. Studies suggest it may be one of the best ways to preserve nutrients in vegetables; microwaving broccoli is the best way to preserve its vitamin C, for example. This method of cooking, however, does not offer the same level of control or finesse sometimes required by a given dish.

- **Boiling** - Boiling is quick and easy although the high temperatures and the large volume of water can dissolve and wash away water-soluble vitamins and 60 to 70 percent of minerals in some foods, especially certain vegetables. Some research suggests, however, boiling could be the best way to preserve nutrients in carrots, zucchini, and broccoli (when compared to steaming, frying, or eating raw).
- **Poaching** - Poaching means cooking the given food in a small amount of hot water (or other liquid) just below boiling point. It takes slightly longer (which some experts believe can decrease nutrient retention), but is an excellent way to gently cook delicate foods like fish, eggs, or fruit.

Boiling, simmering and poaching are all similar methods although the temperatures needed will vary;

- Poaching; less than 82oC
- Simmering; 85-93oC
- Boiling; 100oC

While water based cooking methods cause the greatest losses of water soluble vitamins, they have very little effect, however, on omega 3 fats.

- **Steaming** - Cooking anything from fresh vegetables to fish fillets this way allows these ingredients to stew in their own juices and retain all their natural goodness. Because there is no added water the nutrients in the food do not dissolve or wash away as they do with boiling.
- **Broiling** - Broiling entails cooking food under high, direct heat for a short period of time. Broiling is a good way to cook tender cuts of meat but may not be ideal for cooking vegetables as they can dry out easily.
- **Grilling** - In terms of getting maximum nutrition without sacrificing flavor, grilling is a good option. It requires minimal added fats and imparts a smoky flavor while keeping meats and vegetables juicy and tender. While these are definitely healthy benefits, not everything about grilling is good for you. Some research suggests that regularly consuming charred, well-done meat may increase risk of pancreatic cancer and breast cancer. Cooking at high heat can also produce a chemical reaction between the fat and protein in meat, creating toxins that are linked to the imbalance of antioxidants in the body and inflammation, which can lead to an increased risk of diabetes and cardiovascular disease.

Grilling and broiling are some of the most popular methods of cooking meats. However up to 40% of B vitamins and minerals may be lost during grilling or broiling processes when the nutrient rich juice drips from the meat. There are also concerns about polycyclic aromatic hydrocarbons (PAHs), which are potentially cancer causing substances that form when meat is grilled and fat drips onto a hot surface.

- **Stir-frying/Sautéing** – With this method of cookery food is cooked in a saucepan (or wok) over a medium to high heat in a small amount of oil or butter. These techniques are very similar but with stir-frying the food is stirred often, the temperature is higher and the cooking time is shorter. In general it is a healthy way to prepare food; cooking for a short time without water prevents loss of B vitamins and the addition of fat improves the absorption of plant compounds and antioxidants.

- **Frying** – Frying involves cooking food in a large amount of fat, usually oil, at high temperatures. The food is often coated with batter of bread crumbs. It is a popular way of preparing food because the skin or coating maintains a seal, which ensures that the inside remains moist and cooks evenly. The fat used for frying also makes the food taste very good. However not all foods are appropriate for frying; fatty fish are the best sources of omega-3 fatty acids which have many health benefits. These fats are very delicate and prone to damage at high temperatures. Frying tuna has been shown to degrade its omega-3 content by up to 70-85% while baking caused only minimal losses. In contrast; frying preserves vitamin C and B and it may also increase the amount of fibre in potatoes by converting their starch into resistant starch.
- **No Cooking** - Raw food diets have gained a lot of attention recently, and for good reason. Many studies suggest there are of benefits of incorporating more raw foods into the diet. Studies have shown eating the rainbow consistently reduces the risk of cancer.
- **Roasting and Baking** – Roasting and baking refer to cooking food in an oven with dry heat. Most vitamin losses are minimal in this cooking method (including vitamin C). However due to long cooking times at high temperatures B Vitamins in roasted meats may decline by as much as 40%.

Useful tips to reduce nutrient loss while cooking:

- Use as little water as possible for poaching or boiling.
- Use the liquid left in the pan after cooking vegetables.
- Add back juices from meat that drip into the pan.
- Don't peel vegetables until after cooking them. Better yet, don't peel at all to maximize fiber and nutrient density.
- Cook vegetables in smaller amounts of water to reduce loss of vitamin C and B vitamins.
- Cut food after rather than before cooking, if possible. When food is cooked whole, less of it is exposed to heat and water.
- Cook vegetables for only a few minutes whenever possible.
- When cooking meat, poultry and fish, use the shortest cooking time needed for safe consumption.
- Don't use baking soda when cooking vegetables. Although it helps maintain color, vitamin C will be lost in the alkaline environment produced by baking soda.



ACTIVITY 6 - SCENARIO

Following on from Activity 5, choose 2 of the dishes you listed and write out the recipes for each one including;

- List of ingredients you will need
- Method of preparing the dish
- Temperatures and timings needed
- Equipment you will need
- Any special dietary instructions needed to ensure guest requirements are met
- List of staff who need to be advised of special instructions

Sample Only; not for commercial use

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Present prepared food

Food presentation is just as essential to the success of a dish as its taste and flavour. The way the food looks on the plate is what tempts our eyes and makes you want to taste it. Imagine how your room looks when it's messy and how it looks when you clean it up, the same ingredients, different results. It is just as true with food presentation and how the elements are arranged on the plate.

So food presentation is important. It can make or break a restaurant and it can turn a dinner party into a great success if done right.

Present nutritionally balanced food in an appetising and attractive manner

What are the components of good food presentation? How do you know what to pay attention to when presenting food to your guests? A few simple things to pay attention to;

- Adapt the plate presentation to the occasion; if you are preparing for a children's party, choose fun food presentations that will make them want to eat. They prefer "fun" designs rather than serious and traditional presentations.
- Food presentation is all about timing; there is no point in offering your guests a fancy dish if it is served cold, when it was supposed to be served hot. So spend just enough time plating the dish.
- Another important rule of food presentation is balancing variety and contrast. It is good to have a variety of textures on the plate, but how these textures are combined is just as important.



Using the right Serveware

The importance of the serveware selection should not be underestimated; to achieve a well presented dish, the plate or bowl must be in harmony with the food and the enterprise's style or theme. They must also be of an appropriate size and shape for the food being served. All serveware must be clean, hygienic and undamaged. Never serve meals on dirty, broken or chipped crockery.

Planning is essential for excellence in presentation; planning must not only include what will be on the plate but also how the plate will be set up. The presentation must be sufficiently strong and stable so that when food arrives at the table, it is still attractive and inviting. The serveware used also adds to the visual effect of the dish; the colour of the serveware should not clash with the colour of the food and the food should not appear lost – for example poached fish masked with a white sauce on a white plate. The portion of food served should also balance with the size of the plate or bowl – for example too much food on a small plate looks untidy, too little food on a large plate appears the customer is not getting their monies worth

Garnishing

Much of our appreciation of food stems from the way it looks; from its presentation. The main purpose of a garnish, then, is to add a focal point to the plate. It should attract the eye and highlight the food but should not confuse or over complicate a dish; it should not take the focus away from the food.

Garnishes:

- must be edible, small and attractive
- should be simple and must not overpower the meal
- should be compatible (flavour and style) with the meal
- must always be fresh
- must always be clean (herbs, flowers, vegetables and fruits should be washed properly before they are used as garnish)
- can be as simple as sprinkled chopped parsley or a more complex garnish that may involve decorative items and sauces



There are a huge variety of fresh ingredients available to use for garnishing so use your imagination and take advantage of the natural features of the ingredients, for example the unusual shape of a vegetable or colour of a fruit can add interest.

Visually evaluate dish and adjust presentation

As a food professional, it is vital for you to continuously create and improve your dishes to excite your customers and keep your menu fresh. By putting your food through a proper evaluation process, you can ensure that new dishes are of the right quality as well as identify areas to improve your current offerings.

Before offering a dish to the customer it should be visually checked to ensure the presentation is appealing and appetising.

Things to check for include;

- **Appearance** – This covers the visual appeal of a dish including the way it is presented. When evaluating appearance, consider the following:
 - Overall colour and colour combinations
 - Sizes and shapes of ingredients
 - Visual attractiveness
 - Eye appeal
 - Signs of freshness
 - Cleanliness of the serveware
 - Drips or spills that will need to be wiped away



- **Odour** - Our sense of smell plays a large part in the way we perceive flavours. Odours or aromas can be described as tangy, herby, earthy, fruity or even floral, varying in strength. When evaluating the smell of a dish, you should place the sample at least one inch from your nose before breathing in.
- **Taste** - The way that a dish tastes comes from its combination of flavours as well as its serving temperature. Take a small bite, chew slowly and allow yourself to experience how the flavours pair with one another, noting the intensity of each flavour. Record comparisons and observations within 10 seconds after tasting for easy recall.
- **Texture and Consistency** - This covers all the physical qualities you can feel with your finger, tongue, palate or teeth. When evaluating the texture of food, chew slowly and take note of the various characteristics in each mouthful. Be sure to watch out for when a dish is especially grainy, hard or even sloppy
- **Plated food for practicality** - this means making sure the food is plated in such a manner that the front of house staff can easily serve the dish and that the customer can easily eat it. For example a desert served in a long, tall glass can make it difficult to reach the bottom, or a meat dish served on a wooden board can make it messy to eat when sauce is poured over the dish.

ACTIVITY 7

Continuing on from Activity 6 describe how you will make your dishes appealing to children. Draw a diagram of how you will plate them and what garnishes you will use.

Store dishes in appropriate environmental conditions

Once the service period is over there may be food products left over that can be reused for the next period. How these food items are stored will differ between products. Things to consider include;

- humidity
- light
- packaging
- temperature
- use of containers
- ventilation.

Storing food items

At the end of the service period, chance are that you will have some food product left over. Some of this can be re-used; some cannot. In general;

- all perishable food should be covered and placed on shelves in the cool room with different food groups separated in order to prevent contamination
- cooked foods should always be shelved above raw foods – neither of which should come into contact with each other
- hot food should be covered and put into the cool room for quick cooling down, large quantities should be divided into small containers in order to make chilling more effective
- cold foods should be covered and stored appropriately in the cold room
- any frozen foods which have been thawed should be covered and refrigerated (not refrozen)
- unused dairy foods (milk, butter, etc.) which have been used for service or held at room temperature for a period of time should be disposed of
- bistro salads and vegetables kept in bain-marie should also be disposed of
- hot gravies, soups and sauces should not be poured into containers of cold sauces – they should be poured into clean containers, covered and refrigerated
- store meats, vegetables, dairy foods separately
- store dry foods in sealed, clearly labelled airtight containers
- any contaminated foods such as breadcrumbs or flour, used to coat foods, should be disposed of
- all foods should be stored on clean trays or in clean bowls, buckets
- any foods that have been kept in the danger zone – between 5° and 60°c for longer than 2 hours should be disposed of
- never store foods on the cool room floor.
- dry goods should be kept in lidded, airtight containers that are clearly labelled and shelved – not stored on the floor
- remember the food rotation rules – first in first out, label and store foods so that those which are the oldest will be used first
- check dry store foods for use-by dates
- ensure that foodstuffs are stored separately from chemicals
- ensure that all perishable foods are kept at the correct temperatures:
 - Frozen foods below 18°C
 - Perishable goods below 4°C

Always remember that food poisoning bacteria is not visible – contaminated food will not necessarily look or smell bad. It is, therefore, up to all of the kitchen staff to ensure that food is handled and stored in ways that will prevent bacterial growth. Any suspect foods should be thrown away.

Minimise waste

Unnecessary waste can contribute to the operating cost of your establishment. This can be minimized, however, through the purchase of good quality products; ensuring that the products you buy are suited to the dishes your menu offers and that you buy only as much as you will reasonably need for a given service period or time frame.

To minimize waste you should prepare and cook foods according to the recipe and hygiene requirements.

Forecasting food product requirements

Minimising waste is also a matter of understanding the quantities that you will need to accommodate guest requirements in the first place; so that you buy just enough to satisfy customer needs and so that produce remains fresh and of good quality.

Forecasting needs is a matter of keeping records and statistics, over time, of what customers are ordering. This means keeping track of;

- what dishes are most popular (and which ones are not)
- during what service periods these meals are being ordered
- ingredients needed to prepare the dishes being ordered and so on

With this type of information available you should be able to forecast, with reasonable accuracy, which ingredients to order and in what quantity. Accurate records allow an establishment to buy the right amount of product for the menus they offer, at the right price; thereby minimizing waste. Food purchased but not, then, sold to customers is wasted and this will impact on the organisation's profitability.

Clean work area, and dispose of waste

When working in a kitchen there is the general rule; '*clean as you go*' and this applies to kitchen operations in the same way as it applies to all hospitality activities. Working with food means that you must observe hygiene regulations and all times and this means cleaning and sanitising all work surfaces and implements as and when needed.

The Cleaning Process

Cleaning and sanitizing is an ongoing process in a commercial kitchen and may include (but will not be limited to):

- All large equipment and surfaces should be turned off and cleaned
- Stoves, grills, bench tops etc. should be thoroughly cleaned
- Appliances should be turned off and cleaned
- Chopping boards should be scraped, washed, sanitised and air dried
- Other surfaces on which food is prepared should be sanitised
- Small equipment should be washed, air dried and put away

- Crockery and cutlery should be scraped, pre-rinsed, thoroughly washed (dishwasher at minimum temperature of 71°C), air dried and put away
- Floors should be swept, washed and sanitised
- Garbage bins should be emptied, washed, sanitised and air dried

Safely Dispose of Waste

Each enterprise will have its own procedures and practices regarding waste products. In some enterprises all waste will be weighed and recorded so that costs can be accurately analysed. Other organisations might have a less precise method of measuring waste, whilst others will rely on variation in the computerised record keeping system to indicate the amount of waste generated.

To retain the freshness of food products it is essential that you rotate supplies. If this does not occur, older stock will eventually become unusable and will need to be discarded, which is both a waste of a good product and a waste of money.

Federal, state and local government regulations dictate disposal methods for various types of rubbish. Each establishment must employ an effective method of waste disposal that complies with regulations.

The following should be considered:

- Recyclable items should be organised for regular pick-up.
- Soft food scraps should be put through a waste disposal unit (sinkerator).
- Garbage compactor and grease traps should be regularly cleaned.
- Fats and oils should **not** be poured down drains or put through the garbage compactor.
- Office paper can be shredded and picked up for recycling.
- Cardboard packaging and some plastic items should be compacted for easy pick-up and disposal

In summary; the hospitality industry is one that should offer friendly, high quality service. Customers are, often, spending substantial amounts of money on hospitality service and they should receive value for their money; regardless of any special requirements they may have. It is the role of all hospitality employees to make the customer feel welcome and valued and one way that you can do this is by accommodating, wherever possible and reasonable, their special dietary needs.



Further Reading

For those who are interested in finding out more about special dietary requirements here is a list of useful websites;

Australian Department of Health and Aging	Food for Health https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n31.pdf
Better Health Victoria	Cholesterol – Healthy Eating Tips https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/cholesterol-healthy-eating-tips
Medibank	Gluten Guide https://www.medibank.com.au/bemagazine/images/MedibankBeGlutenGuide.pdf
University of Houston	Nutrition 101 http://www.uh.edu/fitness/PPTs/nutrition101.pdf
European Food Information Council	The why, how and consequences of cooking food. http://www.eufic.org/article/en/expid/cooking-review-eufic/