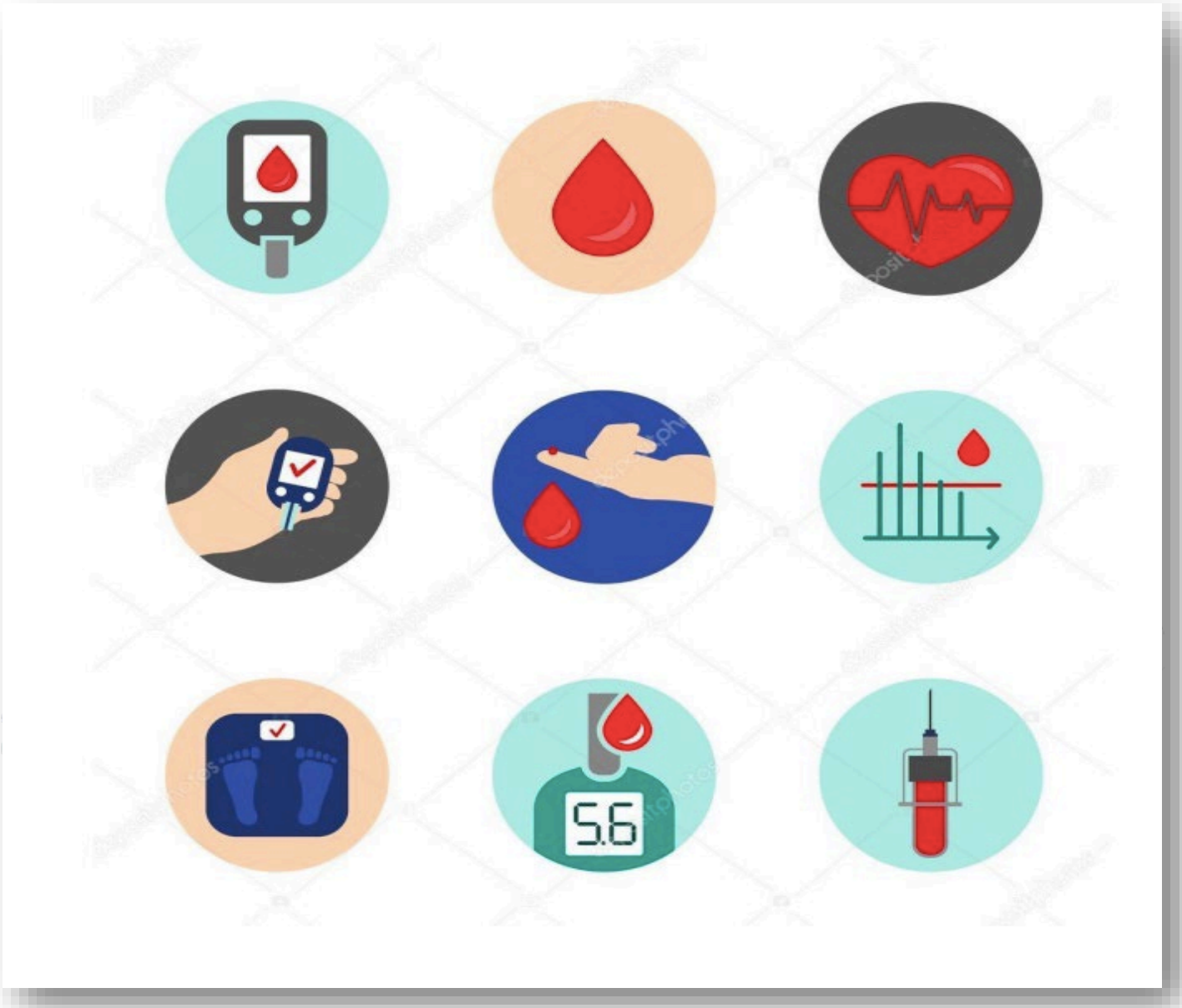


Manual for Diabetes Care

During this module, you will be asked some questions to simply provoke thought and test your current knowledge please have a notepad or supervision workbook to hand to make notes. Your performance will only be measured by the answers you select when completing the knowledge test at the end of the module.

Contents

Learning Outcomes

- Understanding what diabetes means
- Knowing the risk factors for developing type 2 diabetes
- Understanding the treatment and management options for diabetes patients
- Knowing how to respond to hypoglycemia
- Understanding the links between diabetes and other conditions

Complementary Manuals

- Diet and Nutrition
- Care and Administration of Medicines
- Basic First Aid

Chapter One

Under the Health and Social Care Act 2008, it is the responsibility of your employer to ensure that you and your colleagues receive appropriate information, support, and training to comprehend the varying requirements of clients with chronic health conditions (Regulation 23 - Supporting staff). When evaluating your care, The Care Quality Commission will seek evidence of the following.

The safety and well-being of service users are maintained through the expertise of competent staff, as employers:

- Provide adequate support to staff for delivering care and treatment.
- Ensure staff undergo proper training, supervision, and appraisal.
- Facilitate staff in acquiring relevant additional skills and qualifications for their job responsibilities.

(Essential Standards of Quality and Safety, October 2010)

Diabetes Definition

Diabetes, or Diabetes mellitus, is characterized by elevated levels of glucose (sugar) in the body, leading to impaired utilization and processing. In ancient times, individuals with Diabetes Mellitus were distinguished by the sweet aroma and taste of their urine due to the surplus glucose buildup and increased sugar excretion.

Glucose is derived from the digestion of our food, mainly carbohydrates like bread, rice, potatoes, cereals, fruits, as well as sugar and sweet treats. The liver plays a crucial role in breaking down these substances to generate, store, and release glucose as needed by the body.

Types of Diabetes: Type 1 & Type 2

Around 8% of cases in the UK are attributed to Type 1 diabetes, which manifests rapidly and poses an immediate threat to life. Type 2 diabetes, on the other hand, progresses more slowly, but both types can lead to disability and premature death.

Type 1, also referred to as insulin-dependent diabetes, occurs when the insulin-producing cells in the pancreas are destroyed, leading to an insufficient amount of insulin in the body. This hormone is essential for regulating glucose levels in the blood.

Due to the complete absence of insulin production in individuals with Type 1 diabetes, they must regularly administer insulin injections or employ an insulin pump to manage the condition.

Every two minutes, someone is diagnosed with diabetes.

Type 2 diabetes arises when the body still produces insulin, but either in inadequate quantities or with reduced effectiveness due to insulin resistance.

The pancreas, responsible for insulin production, acts as a key, allowing glucose to be utilized by the body's cells. If the supply of insulin is faulty or insufficient, glucose accumulates in the bloodstream, causing various physical health problems associated with excess sugar in the blood.

Type 2 diabetes surpasses type 1 in prevalence, and like numerous health conditions, the likelihood of developing it increases with age. As the population ages, diabetes levels also rise. Regrettably, a connection exists between type 2 diabetes and obesity, leading to its increasing occurrence in younger individuals; more and more people now develop diabetes before turning 40.

Even though individuals with type 2 diabetes may produce insulin, they struggle to properly regulate their blood glucose levels, necessitating effective methods for gaining and maintaining control. This may involve adopting lifestyle changes and dietary adjustments or utilizing tablets or insulin injections.

A widespread misconception labels type 2 diabetes as a milder variant of the disease; however, if left undiagnosed and untreated, it can result in severe long-term consequences, such as organ failure, heart disease, vision loss, and nerve damage that may lead to amputations. Therefore, it's crucial to identify at-risk clients and ensure they undergo regular testing by their GP to initiate treatment as soon as possible.

Signs and symptoms of both type 1 and type 2 diabetes are similar, but in type 2, they might remain unnoticed for years, while in type 1, they become apparent within weeks.

General Symptoms:

- Experiencing more frequent urination, particularly during nighttime
- An increase in thirst levels
- Feeling extremely fatigued
- Unexplained loss of weight
- Experiencing genital itching or frequent occurrences of thrush
- Slow healing of cuts and wounds
- Vision becoming blurred
- Tingling sensations in the hands and feet

(Diabetes UK 2018)

Type 1 and type 2 diabetes, though having distinct origins, exhibit broadly similar consequences as separate illnesses. For individuals with type 2 diabetes, a situation may arise where insulin therapy becomes necessary if their condition worsens. As they age or struggle to regulate blood sugar levels, their pancreas might gradually produce less insulin, resulting in reduced effectiveness in controlling its usage. As a consequence, the individual may eventually need insulin treatment to effectively manage their condition.

Treatment with Insulin

Insulin emerged as the pioneering treatment for diabetes in the 1920s. Before this breakthrough, individuals with type 1 diabetes faced significantly reduced life expectancy since their only method of controlling blood glucose was restricting food intake. The ongoing investment in research and development aims to discover alternative insulin administration methods, as regular injections can be unpleasant.

It's important to note that insulin is a treatment, not a cure for diabetes. Both type 1 and type 2 diabetes are chronic conditions without a known cure, but effective management is possible. Insulin therapy has enabled countless individuals to lead normal, healthy lives, albeit with a perpetual reliance on medication, as a cure is not presently foreseeable.

The most prominent distinction between type 1 and type 2 diabetes lies in the fact that individuals with type 1 diabetes must consistently administer insulin and remain dependent on it throughout their lives. On the other hand, those with type 2 diabetes may benefit from short-term insulin therapy, but with improvements in blood glucose management through diet, weight loss, and lifestyle adjustments, they may no longer require insulin injections.

In the case of type 2 diabetes, prolonged use of insulin can lead to a decreased ability of the pancreas to produce sufficient insulin. However, this trend can be reversed through dietary changes, weight loss, and lifestyle modifications, ultimately eliminating the need for insulin injections.

Risk Factors

While the precise triggers behind the majority of type 1 diabetes cases remain unknown at present, we possess knowledge about several factors that heighten the likelihood of an individual acquiring type 2 diabetes. These factors encompass:

- Having a diabetic close relative
- Being overweight
- Experiencing gestational diabetes during pregnancy
- Engaging in smoking
- Advancing age

A common misconception is that eating sugar causes diabetes, but it is not as simple as that. Eating a high sugar and high fat diet resulting in the likelihood of becoming overweight will certainly be a risk factor but it is not the whole story. Type 1 reasons can be slightly more complex.

The causes for type 2 diabetes are clearer, in most cases of people with type 2 this is linked to them being overweight, 80% of people diagnosed with type 2 diabetes are overweight.

While many people mistakenly believe that consuming sugar leads to diabetes, the reality is more nuanced. The probability of developing diabetes increases with a diet high in both sugar and fat, leading to potential weight gain. However, this doesn't encompass the entire scenario, as the causes of Type 1 diabetes can be somewhat intricate. On the other hand, the causes of Type 2 diabetes are more apparent, with the majority of individuals diagnosed with Type 2 diabetes being overweight—approximately 80% of them fall into this category.

Life-Style

Having diabetes does not automatically indicate an unhealthy lifestyle or poor overall health. It is unhelpful and potentially hazardous to label all individuals with diabetes as 'Diabetics' and treat them uniformly. The severity of the condition can vary significantly, with some experiencing debilitating side effects and general health issues, while others may be quite fit and healthy. A prime example is Sir Steven Redgrave, who won his fifth Olympic gold medal despite having type 2 diabetes.

Supporting clients in managing their blood glucose levels through exercise can be highly advantageous, and we will explore how to do so effectively.

The guidelines for healthy eating remain consistent for individuals with diabetes, just as they are for anyone else. In Chapter 3, we will delve deeper into the details of a balanced diet that includes all types of food, including those with sugar content such as fruits and milk. People with diabetes should not be restricted from consuming any particular food items and may even require quick sugar fixes like chocolate or fizzy drinks if they sense a drop in their sugar levels.

Health professionals and expert organizations like Diabetes UK do not endorse specialist 'diabetic' foods due to their exorbitant prices, lack of health benefits, and potential side effects, such as diarrhea.

Chapter Two

Health Improvement

If a client has received a diabetes diagnosis or is deemed at risk of developing it, it is essential to encourage them to see their doctor, and if needed, they should be accompanied by a family member, caregiver, or advocate. The GP can then assess their blood pressure, cholesterol, and blood sugar levels. If any concerns arise, the doctor may prescribe medication and propose lifestyle adjustments to enhance their well-being.

To ensure the well-being of your clients, it is crucial to support them in making healthy lifestyle decisions and aiding them in accessing valuable advice and information.

Care Quality Commission's essential standards of quality and safety state that individuals using services must be provided with relevant information to motivate them to modify lifestyle behaviors that jeopardize their health. This empowers them to make informed choices about leading a healthier life.

The Mental Capacity Act 2005

The main purpose behind the creation of the Mental Capacity Act 2005 was to safeguard the rights of adults who could be considered vulnerable and at risk of being deprived of their ability to make personal choices and decisions. The Act is underpinned by five fundamental principles that collectively guarantee the respect of individuals as capable adults, offer them ample chances to exercise their own decisions and choices, treat them impartially without any bias or discrimination, and provide support to enhance their independence as much as feasible.

The Constitutional Values

1. Capacity should be presumed in a person unless proven otherwise that they lack it.
2. Making decisions for someone should only be considered when all reasonable efforts to assist them have been exhausted without success.
3. The mere fact that a person makes an unwise decision should not automatically imply an inability to make decisions.
4. When acting on behalf of a person lacking capacity, all actions and decisions under this Act must be in their best interests.
5. Prior to taking any action or making a decision, it must be considered whether the same goal can be achieved with less restriction on the person's rights and freedom of action.

(Mental Capacity Act 2005 Code of Practice)

When working, it is essential to adhere to the Mental Capacity Act and CQC guidance. As such, the decision to implement changes or not rests with each individual client. Even when making decisions on behalf of a client, it is crucial to base those choices on a comprehensive understanding of their personal values and beliefs.

The following examples represent unacceptable care practices, even if done with the best intentions:

- Treating clients with diabetes differently during mealtimes, such as providing limited menu choices and denying them desserts available to others.
- Prohibiting a client from smoking.
- Forcing a client to engage in exercise.

If you believe that individuals could benefit from lifestyle or behavioral adjustments, it is necessary to find appropriate and gentle ways to encourage and support them. These methods should not infringe upon people's rights and freedoms or exceed the professional boundaries of your relationship with them.

Good and Bad Practices

Good Practice:

- Ensure that the individual's best interests are being considered.
- Adopt a person-centered approach that emphasizes fairness, respect, and partnership.
- Honor the individual's cultural and religious identity.
- Discern and prioritize benefits that hold significance for the individual.
- Provide education, information, and empowerment to the individual.

Bad Practice:

- Engaging in actions that curtail an individual's liberties or rights
- Forming presumptions about an individual's knowledge or intentions
- Neglecting any apprehensions or unease concerning change
- Imposing expectations on individuals to conform to your values and convictions

Bringing Changes

Annually, an expenditure of £10 billion by the NHS is allocated to diabetes, with three quarters of this amount dedicated to treating associated complications. Such complications encompass medical interventions like amputations and transplants that become necessary due to inadequately managed diabetes. By providing education and support, it is possible to assist a greater number of individuals living with or at risk of developing diabetes in making essential lifestyle changes, thereby preventing complications. This proactive approach would lead to a significant reduction in costs and the burden on healthcare services.

Unfortunately, projections indicate that the NHS will face escalating cost pressures resulting from diabetes and its associated complications. A considerable factor contributing to this trend is the rapid increase in obesity rates among both adults and children.

In 2008, the number of overweight preschool children worldwide exceeded 40 million. According to the World Health Organization (WHO), over a quarter (28.1%) of adults in the UK are classified as obese, with a BMI of 30 or higher.

(Source: www.diabetes.co.uk, 2020)

Diet Plan

Making unhealthy dietary decisions can result in obesity, elevated blood pressure, increased cholesterol levels, and clogged arteries, consequently diminishing life expectancy and giving rise to medical emergencies like strokes.

Result of Healthy Diet

- Adherence to a healthy weight to prevent strain on joints and internal organs.
- Maintaining optimal energy levels.
- Ensuring stable blood sugar levels, which are crucial for sustaining energy and avoiding fatigue.
- Safeguarding against illness and injuries, as adequate intake of vitamins and minerals is vital for bone strength.

Diets that lack balance often contain excessive saturated fats, sugars, and salt, whereas well-balanced diets incorporate abundant fiber, unprocessed carbohydrates, and monounsaturated fats. Nowadays, dietary advice is readily available from various sources, but it is advisable to rely on recommendations from qualified professionals, such as those found in doctors' surgeries. Trusted online sources, like www.nhs.uk, offer sensible and reliable guidance.

Balanced Diet: A guideline

- The foundation of the diet should revolve around starchy carbohydrates in their least processed form, encompassing wholegrains, vegetables, brown rice, pasta, and pulses. These options are rich in fiber and have low fat content, contributing to stable blood sugar levels.
- Strive to incorporate five servings of fruits and vegetables daily, with at least one serving in its raw state.
- Limit the consumption of processed carbohydrates, particularly refined sugars.
- Decrease the intake of saturated fats found in red meats, dairy products, and cakes, while increasing the consumption of monounsaturated fats like avocadoes and olive oil.
- Lower salt intake as excessive salt can elevate blood pressure.
- Protein is essential, but reliance on red meat and dairy should be minimized. Instead, consider alternatives like fish, nuts, and pulses that provide crucial nutrients with lower levels of saturated fat.
- Maintain regular eating patterns, as people generally make better food choices when they eat smaller, frequent meals.

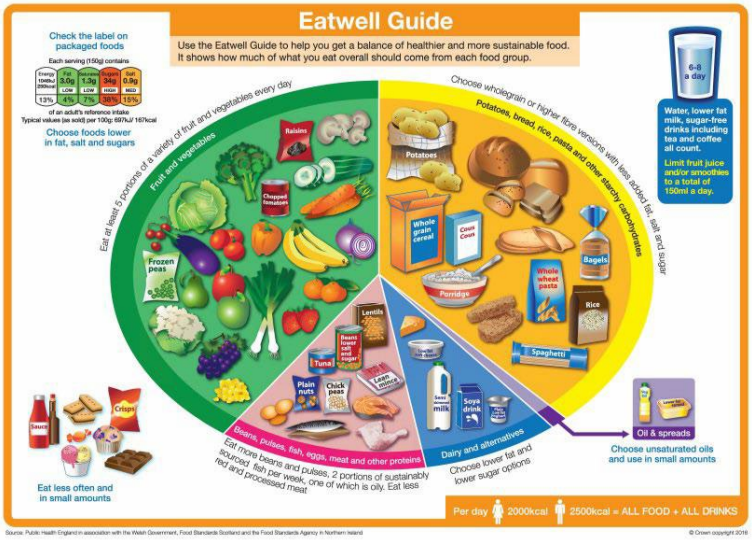
If there is a proficient cook or catering team, they will collaborate with care staff and individual clients to offer a diverse range of appealing food options, promoting healthy eating habits.

Relation Between Diet and Diabetes

The connection between diet and diabetes is crucial for diabetics to maintain normal blood sugar levels and avoid diabetes-related complications. Hence, diet plays a significant role in managing the condition. It is essential to strike a balance in one's dietary choices to effectively deal with diabetes, without resorting to overly restrictive eating habits. Instead, diabetics should be able to incorporate a diverse range of foods into their healthy diet. Making gradual changes that they can sustain is more preferable to a complete but unsustainable overhaul of their eating habits.

When it comes to eating for diabetic health, there's no need to follow a specialized diet. Instead, diabetics should adhere to the same guidelines recommended for the general population: opting for low-fat, low-sugar, and low-salt options while including ample fruits, vegetables, and quality carbohydrates like bread, pasta, potatoes, and cereals.

The "EATWELL GUIDE" proves to be an excellent tool for achieving these dietary objectives.



Ten Effectives Eating Habits

1. Consume three regular meals daily.
2. Incorporate starchy carbohydrates into each meal.
3. Decrease the intake of fat in your diet.
4. Increase the consumption of fruits and vegetables.
5. Integrate more beans and pulses into your eating habits.
6. Strive to include at least two portions of oily fish per week.
7. Control the intake of sugar and sugary foods.
8. Lower the amount of salt in your diet.
9. Consume alcohol in moderation.
10. Avoid the temptation of using diabetic food or drinks.

Physical Exercise

Part of maintaining good health involves engaging in a reasonable level of physical activity. This helps in reducing blood pressure and minimizing the risk of stroke and chronic conditions like diabetes.

While sports and organized physical activities may not suit everyone, almost anyone can boost their daily activity levels by making simple changes or setting aside time for exercise. It doesn't necessarily mean hitting the gym and sweating profusely. There are various relaxing ways to increase physical activity, such as:

- Taking leisurely walks
- Opting for stairs over elevators
- Getting off the bus a stop or two earlier
- Enjoying swimming sessions
- Playing swing ball with family
- Engaging in WII sports
- Dancing to your favorite tunes
- Tending to the garden
- Doing household chores
- Carrying shopping bags

While certain individuals might face limitations due to their physical abilities, there are still viable options among the aforementioned activities. Exploring alternatives like chairobics or indoor bowls can be worth considering for them.

***Request physiotherapists to suggest suitable equipment catering to individuals with specific requirements. ***

The ideal recommendation is for everyone to engage in 30 minutes of moderate activity, causing slight breathlessness, at least five times per week. If there are concerns about exercising safely, particularly for individuals over 40 who may experience quick breathlessness, it's advisable to refer them to their GP for guidance and assistance.

It's important to consider that while exercise is beneficial for maintaining overall health, individuals with diabetes must be mindful of its potential impact on blood sugar levels, which could either elevate or reduce them, depending on the type of exercise. To manage this effectively, checking blood sugars more frequently before and after physical activity can help identify patterns, facilitating better management of fluctuations and providing peace of mind.

For those who are significantly overweight and experience discomfort during movement, exercising in water can offer joint support while allowing them to burn calories effectively.

Smoking

While every smoker faces health risks, individuals with diabetes face notably elevated dangers. Diabetes already heightens the likelihood of experiencing cardiovascular conditions like heart attacks, strokes, or circulatory issues in the legs; however, smoking further doubles the probability of complications.

Possible Damage

- Augments the chances of experiencing neuropathy (nerve damage), nephropathy (kidney damage), and retinopathy (eye damage).
- Reduces the level of oxygen delivered to the body's tissues, potentially resulting in a heart attack or stroke.
- Triggers arterial narrowing.
- Elevates the probability of blood clot formation.
- Raises blood pressure levels.

(Diabetes UK 2018)

Like maintaining good blood glucose control, eating well, taking regular exercise, and keeping to a healthy weight, giving up smoking ranks among the most advantageous actions you can take for your future health.

Various products are available to aid people in quitting smoking, ranging from self-help books to patches and pills. It is crucial to persist until the appropriate assistance is discovered, as what works for one person may not be effective for another.

A recommended starting point is the NHS stop smoking service, which provides free advice, counseling, support groups, and prescription aids. For more information, reach out to them at 0800 022 4 332 or visit their website www.smokefree.nhs.uk.

Benefits from Alcohol

Recent studies indicate that a moderate quantity of alcohol can offer potential health benefits, but exceeding the recommended intake raises the risk of various health issues. Both engaging in binge drinking (consuming more than 6 units in a session for women or 8 units for men) and engaging in long-term excessive alcohol consumption poses significant dangers.

For men, the advised weekly alcohol limit is 14 units, which also applies to women. It is recommended that everyone have a few alcohol-free days each week and restrict daily alcohol intake to 2 to 3 units.

The size of an alcohol unit can vary, generally equating to half a pint of regular strength lager, a small glass (125 ml) of wine, or a measure (25 ml) of spirits.

Individuals taking diabetes medications or insulin should be cautious about potential interactions with alcohol and may need to adjust their dosage when consuming alcoholic beverages.

Drugs

The utilization of certain recreational and performance drugs can lead to damage to blood vessels and a rise in blood pressure; individuals opting to consume these substances must be mindful of the hazards involved.

Chapter Three

Strategic and Effective Management

Those with diabetes must attain expertise in their condition; lacking the ability to grasp the implications of their illness and the consequences of their choices necessitates support from caring individuals willing to educate themselves about the disease. Mere reliance on medication at scheduled intervals does not suffice for managing diabetes, as various factors come into play for determining what and when to take, and medication alone isn't the sole solution. Understanding the impact of daily habits on blood glucose levels is also crucial for individuals with diabetes.

The complications associated with diabetes arise from sustained high blood glucose levels over time. To effectively manage their blood glucose, people should receive support in three key ways:

- Medication
- Lifestyle changes
- Education to comprehend the reasoning behind and methods for managing all aspects of their condition.

In an effort to mitigate the impact of diabetes, the government has introduced a National Framework for Diabetes, outlining the standards of care that must be made accessible. The following services should be accessible to your clients with diabetes:

- A well-informed GP or practice nurse: All medical practices should have specialized personnel capable of conducting comprehensive medical examinations and providing appropriate advice and support.
- Access to a consultant when necessary: Individuals with type 1 diabetes and those with type 2 who require additional support will receive care from a hospital consultant, who will conduct regular assessments.
- Yearly medical review
- Yearly eye examination
- Regular foot examinations

Consider the diverse requirements of all clients diagnosed with diabetes; take some time to contemplate and jot down notes on various factors that could be taken into account while devising their support.

Monitoring Blood Glucose

It is essential for the General Practitioner and other involved support services to determine the frequency of blood glucose monitoring based on individual needs.

The standard readings for blood glucose monitoring are given below:

Target Levels by Type	Upon Waking	Before Meals	At least 90 minutes after meals
Non-Diabetic		4.0 to 5.4 mmol/L	Under 7.8 mmol/L
Type 2 Diabetes		4 to 7 mmol/L	Under 8.5 mmol/L
Type 1 Diabetes	5 to 7 mmol/L	4 to 7 mmol/L	5 to 9 mmol/L

Visit http://www.Diabetes.org.uk for more information.

Blood sugar levels below 2.8mmol/L or above 13.9mmol/L could indicate a potentially serious medical condition and necessitate seeking medical advice.

Utilizing charts similar to those provided can be a beneficial method for monitoring blood sugar levels and pinpointing reasons behind fluctuations.

Date	Dose a.m.	Dose p.m	before/after breakfast	before/after mid-day meal	before/after evening meal	before bed	Comments

While relying solely on diet may not always suffice for diabetes management, there exist various treatment alternatives to provide assistance.

Medication

The adherence to the Health and Social Care Act 2008 and alignment with the goals of the National Service Framework for Diabetes, developed by the Department of Health in 2013, are essential when it comes to prescribing and handling medication and treatment for your clients.

Regulation 13: Management of Medicines (Outcome 9) Health and Social Care Act 2008.

Effective Medication Through Personalized Care

An essential aspect of the Essential Standards involves incorporating medications into a personalized care plan that suits the needs and safety of the service user. Prompt 9A of the Standards mandates that this care plan must consider the service user's:

- Age
- Choices
- Lifestyle
- Cultural and religious beliefs
- Allergies and intolerances
- Existing medical conditions and prescriptions
- Adverse drug reactions
- Recommended prescribing regimes.

To maintain the appropriateness of medications, it is essential to continuously monitor and review all prescriptions. According to Prompt 9A of the Essential Standards, providers have the responsibility to keep the individual's medication prescriptions up to date and ensure that they are regularly assessed and adjusted based on any changes in their needs or condition.

Prompt 9B highlights the importance of obtaining an updated list of medicines from the service user when they start using the service.

Doctors can enhance compliance and thus improve treatment outcomes for chronic conditions like diabetes by adopting a person-centered approach to prescribing. This is especially crucial when medications carry unpleasant side effects and the benefits may not be readily apparent.

For instance, tailoring treatment plans to individual habits can prove effective; some patients who maintain a consistent routine may prefer a regimen centered around set mealtimes, while others with more unpredictable lifestyles might require a flexible approach to minimize potential harm from missed or irregular doses.

Providing clients with comprehensive information regarding their health and treatment options remains essential. As long as they possess the capacity to decide, the choice of following the doctor's advice or not rests entirely with them. Even when capacity is lacking, it's crucial to consider the preferences they would have had. While facing challenges when dealing with patients who resist taking vital medication, it's essential to respect their autonomy and right to make such decisions.

Available Treatments

While certain individuals with type 2 diabetes might effectively manage their blood glucose levels through proper nutrition and regular physical activity, those who find these measures insufficient may resort to taking tablets. Alternatively, individuals with type 1 diabetes, like their counterparts, will require insulin as part of their treatment.

Tablets

There is a range of medications available to aid diabetics in managing their condition. These medications consist of tablets, which can be used either alone or in combination with insulin injections. Each of these medications operates differently and comes with its own set of side effects, so finding the most suitable one may require some experimentation.

Commonly prescribed tablets for diabetes include metformin, gliclazide, and acarbose. To ensure safe and effective usage, it is crucial to carefully read the provided information about each medication and become familiar with their administration, expected effects, and potential risks.

Possible issues associated with these medications are as follows:

- Life-threatening hypoglycemia (low blood glucose, refer to Chapter 4)
- Facial flushing when consuming alcohol
- Experiencing nausea and diarrhea
- Possibility of weight gain
- Fluid retention

Insulin

As previously noted, individuals with type 1 diabetes are required to utilize insulin, along with certain individuals dealing with type 2 diabetes.

Insulin exists in various formulations, and medical professionals need to collaborate closely with patients to determine the most suitable form or forms of insulin. Some insulin types exhibit rapid action but have a short duration, while others take longer to take effect but provide effectiveness over several hours. Typically, individuals might administer fast-acting insulin before meals and a slower-acting variety before bedtime, although this can vary for each person.

Since insulin would be broken down by stomach acids if ingested, it currently needs to be administered through injections. Patients may employ pen systems or draw insulin into a syringe. While other delivery methods exist, they are not widely used presently. If an effective alternative to injections is developed, it could significantly enhance the lives of the many individuals who currently need to inject themselves multiple times daily.

Clients who rely on insulin should receive support for self-administration for as long as feasible. Injection sites should include fatty areas like the abdomen or thigh, with variation to prevent the formation of unsightly fatty tissue lumps at the injection site.

In cases where self-administration isn't possible, a district nurse or a properly trained caregiver can handle the injections.

Individuals using insulin must monitor their blood glucose levels to ensure safety. They should be educated on using this information to adjust their insulin dosage. Insulin requirements are influenced by factors such as food consumption, physical activity, and the presence of infections. The client's general practitioner should determine the appropriate blood glucose target, as individual needs vary and glucose levels can be affected by dietary intake.

The primary risk associated with insulin usage is hypoglycemia. Individuals dependent on insulin require consistent monitoring, and protocols should be in place for situations like delayed meals, client illness, and accidental overdosing. (Refer to Chapter 4 for information on recognizing and treating low blood sugar symptoms).

Regular Checks

Individuals with diabetes face an increased likelihood of experiencing complications linked to elevated blood pressure and elevated cholesterol levels, which can lead to conditions like heart disease and stroke. Due to this, it is essential for them to undergo routine monitoring of their blood pressure and cholesterol levels. Additionally, they might be prescribed medications aimed at lowering blood pressure or given drugs like Simvastatin to diminish cholesterol levels. Those dealing with these complications might also be advised to decrease their consumption of both dietary salt and cholesterol.

Chapter Four

Complications Identifications and Management

Failure to maintain appropriate blood sugar levels can lead to complications, some of which could pose an immediate threat to life or lead to the development of agonizing and incapacitating ailments.

If you are in a caregiving role, it is incumbent upon you to comprehend the health conditions of those under your care and to be able to identify indicators and manifestations that might warrant concern. The elderly, in particular, are more susceptible to facing critical episodes of elevated blood sugar (hyperglycemia).

All individuals with diabetes must undergo regular blood sugar monitoring, and necessary measures should be implemented when readings deviate from the normal or acceptable range. The information provided below aims to enhance your general awareness; additionally, you should receive guidance from the respective clients' medical practitioners regarding their individual healthcare requirements.

Long-Term Complexity

Clients who have diabetes need to be informed about the potential risks associated with inadequate management of their blood glucose levels. For instance, continuing habits such as smoking, consuming an unhealthy diet, or not adhering to medication can have negative consequences. In order to prevent serious complications, individuals need to possess strong motivation as making lifestyle adjustments demands considerable determination. Additionally, the process of injecting insulin may lead to discomfort and weight gain.

The complexities of diabetes result in specific requirements for individuals dealing with the condition:

- Regular monitoring is essential to detect any deterioration in factors like vision and organ function. This necessitates frequent appointments with relevant specialists, enabling more effective treatment if issues are identified early.
- Special attention should be given to foot care due to potential reduced or complete loss of sensation in extremities. Feet are susceptible to harm from hot water, sharp objects, or poorly fitting shoes. Maintaining proper foot care involves daily checks and referrals to podiatrists when needed. An informative leaflet on Diabetic Footcare is available from Diabetes UK.
- Diabetes stands as a primary cause of amputations. It's crucial to promptly refer clients to their GP if ulcers form or if cuts and wounds show delayed healing, requiring urgent attention.

According to the NHS, individuals with diabetes face a 15-fold higher likelihood of undergoing amputations compared to those who do not have the condition. This information comes from Diabetes.co.uk.

Should individuals fail to effectively regulate their blood sugar over an extended period, they will face significant harm to their bodies due to persistent high blood sugar levels. This potential harm encompasses:

- Nerve impairment
- Compromised vision or complete loss of sight
- Heart ailments
- Renal damage

Depression Diabetes Relation

Individuals with diabetes have a heightened susceptibility to depression compared to the general populace. Therefore, it is crucial to be vigilant about identifying indications and indications of this condition, while also providing assistance to clients in managing their mental well-being. The indications and indications encompass:

- Experiencing fatigue or having diminished vitality
- Engaging in crying spells, whether intermittent or persistent
- Demonstrating difficulty in maintaining focus

- Experiencing disruptions in sleep patterns
- Displaying a tendency to withdraw from social interactions
- Exhibiting reduced interest or joy in activities
- Struggling with day-to-day functioning
- Experiencing fluctuations in appetite, whether diminished or excessive
- Enduring bodily discomfort and soreness
- Grappling with feelings of despondency and pessimism

Should you harbor suspicions of depression in a client, it is advisable to direct them to their general practitioner for further assessment.

Diabetes During Illness

Elevated blood glucose levels can be induced by illness, infection, and stress, contributing negatively to the body's state. This happens due to the body's release of additional glucose into the bloodstream as a response to combat the illness; however, this mechanism is impaired in diabetes. Consequently, the symptoms of both diabetes and the underlying illness become more pronounced.

Individuals afflicted with diabetes have an increased susceptibility to infections, particularly when their blood glucose levels surpass the norm. Furthermore, nearly all infections have the potential to trigger an elevation in blood glucose levels.

In the elderly, infections, when not properly managed, can result in severe complications that might necessitate hospitalization. On occasions, the indications and symptoms of infection might not be readily apparent, but alterations in mobility or the onset of confusion could serve as indicators of an underlying infection.

Steps to Follow

- Ensure a prompt referral is made to a GP
- Ensure the individual avoids dehydration
- In case of diarrhea, caregivers should note the increased susceptibility to hypoglycemia
- Continue regular blood glucose testing to track progress or decline

Alert!

Continue with your diabetes treatment regimen. It might be necessary to raise the dosage of diabetes medication throughout the period of infection.

Medical Emergencies

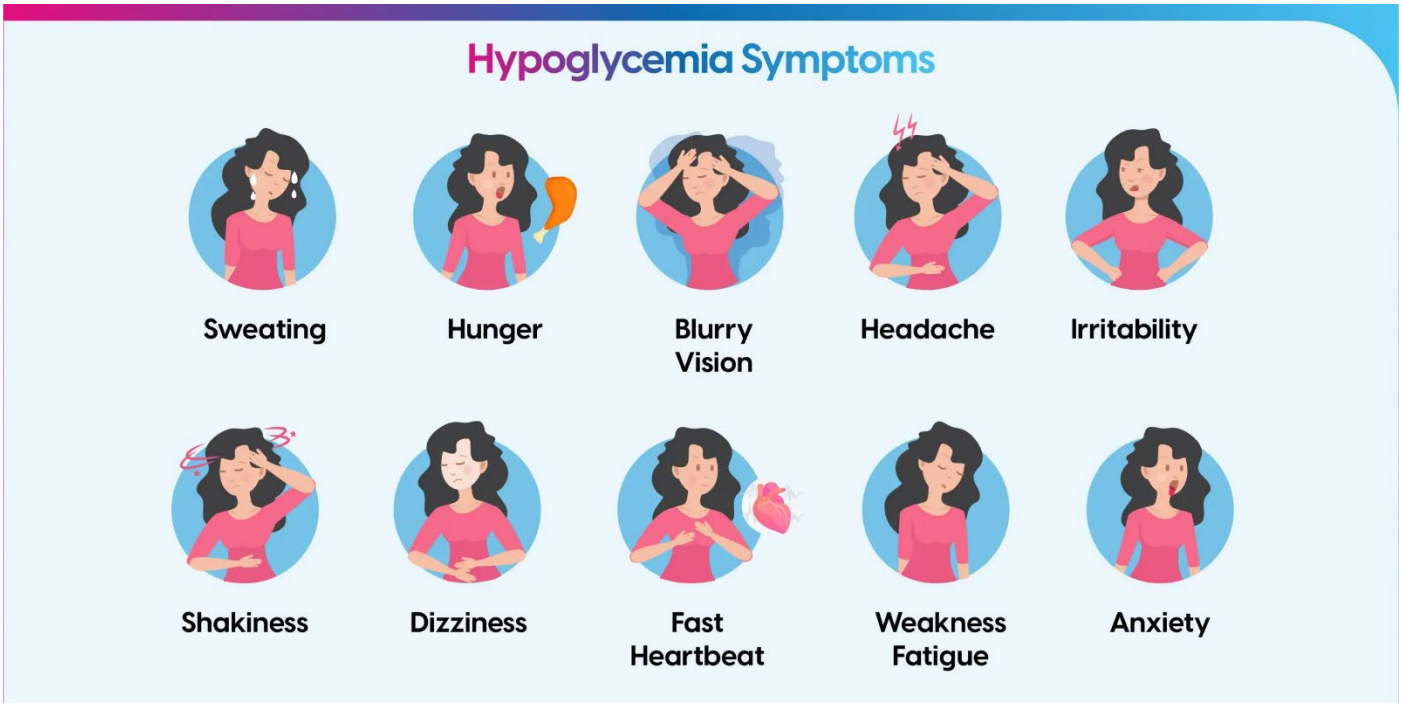
Hypoglycemia (Low Blood Sugar)

In case of excessive insulin intake, inadequate food consumption, heightened physical activity, engaging in sexual intercourse, facing stressful situations, consuming excessive alcohol, or having an infection, there is a possibility of encountering a sudden decline in blood glucose levels. If this condition goes unnoticed, it can lead to unconsciousness; without appropriate intervention, this state could prove fatal.

Individuals with diabetes often become adept at identifying early signals and self-treatment. Yet, on occasion, glucose levels can plummet so rapidly that they must rely on someone else to recognize their distress and possess the knowledge to address it. If the person possesses a blood glucose testing kit, they should conduct a blood sugar test. If this is not feasible, administering hypoglycemia treatment is advisable, as it poses no additional risk and might save a life.

Individual responses vary, but the initial indications of mild hypoglycemia can encompass:

- Sensation of hunger
- Perspiration
- Vertigo
- Sensations of weariness (fatigue)
- Visual blurring
- Tremors or quivering
- Feelings of restlessness or annoyance
- Paleness occurring
- Swift pulse or palpitations
- Tingling in the lips



Symptoms indicating heightened hypoglycemia encompass:

- Challenges with focus
- State of perplexity
- Behavior that's disorganized or irrational, potentially misconstrued as intoxication

(NHS 2017)

First Aid Manual

Conscious patient:

When dealing with a conscious patient, follow these steps:

- Administer sugar, such as chocolate, fruit juice, or cola.
- Engage in conversation with the patient while continuously monitoring their condition.
- If there is no quick improvement, contact emergency services at 999.

- Upon recovery, encourage the patient to consume a starchy carbohydrate snack to maintain blood glucose levels. They might experience a headache and could benefit from pain relievers and rest. Ensure they check their sugar levels after eating.

If the individual is experiencing reduced consciousness or is unconscious, it is not safe to provide food or beverages. They may carry a drug called glucagon; if you're trained to use it, administer it via injection in case of suspected hypoglycemia.

Unconscious Patient:

In the event that the person is not conscious, the subsequent actions should be implemented:

- Assess for any reaction.
- If no response, lay them down on their back.
- Open up the airway, and assess breathing.
- If they are indeed breathing, position them in the recovery stance and dial 999.
- If breathing is absent, summon 999 immediately and initiate CPR (if trained).

Hyperglycemia (High blood sugar)

In instances where a medication dose has been overlooked, an excess of carbohydrates has been consumed, the person is experiencing stress, is unwell due to an infection, or has excessively treated a hypoglycemic episode, it is possible for hyperglycemia to manifest. This condition entails elevated blood glucose levels, exceeding 7mmol/l prior to a meal and 8.5mmol/l two hours after eating.

As previously indicated, the indications and manifestations of hyperglycemia encompass:

- Increased thirst
- Exhaustion
- Abnormal frequency of urination
- Headaches

Failure to adequately address hyperglycemia can lead to the onset of 'Ketoacidosis'. This condition arises when there is an insufficient amount of insulin in the body, preventing the utilization of glucose as an energy source. Consequently, the body resorts to breaking down fats for energy. The potential danger of hyperglycemia lies in the possibility of blood glucose levels becoming exceedingly elevated and remaining so over an extended duration. When blood sugar levels are extremely high, life-threatening complications such as Ketoacidosis and Hyperosmolar can arise.

Hyperglycemic State

Ketoacidosis

Ketoacidosis, a condition characterized by elevated blood sugar levels, is commonly linked to individuals diagnosed with type 1 diabetes. Nonetheless, individuals with type 2 diabetes also have the potential to develop this condition. The presence of illness can play a role, making it important to closely observe individuals with diabetes during times of sickness or infection in order to effectively manage their blood glucose levels. Failure to identify and address this issue could potentially lead to a coma.

Symptoms:

- Greater thirst
- Elevated frequency of urination
- Abdominal discomfort
- Nausea or vomiting
- Rapid and profound respiration
- Sensations of fatigue or drowsiness
- Odor reminiscent of sweet breath (often likened to pear drops)
- State of confusion
- Feeling lightheaded or fainting
- Increased presence of ketones (detectable through urine testing)
- Elevated blood glucose levels

In the presence of any of these indications, it's recommended to monitor your glucose levels. Individuals experiencing diabetic ketoacidosis (DKA) typically exhibit glucose levels surpassing 11mmol/L.

Action

Dial 999 for assistance; only healthcare experts can diagnose and provide treatment for this issue.

Hyperosmolar Hyperglycemic State (HHS)

This represents yet another instance of elevated blood glucose, necessitating immediate medical attention due to its potential to pose a danger to life. This situation arises among individuals afflicted by type 2 diabetes, characterized by markedly elevated blood glucose readings (exceeding 40mmol/l). The group most frequently affected is the elderly population, particularly those contending with a blend of sickness or infection coupled with dehydration. The progression of this condition takes place over the span of several weeks.

Symptoms

- Exceptionally elevated blood glucose levels (typically exceeding 40)
- Regular occurrence of urination
- More pronounced thirst than usual
- Skin dryness
- Lack of proper hydration
- Feeling of queasiness
- State of confusion
- Feeling of drowsiness
- Absence of consciousness

Action

- Contact emergency services
- Provide care for a conscious/unconscious individual with first aid training
- Situation necessitates care at a hospital

In the event that an individual with diabetes experiences elevated blood sugar levels, the idea of advising them to administer insulin might arise. However, it's crucial to understand that insulin should never be considered an emergency remedy. Its usage should strictly adhere to the instructions provided by the person's medical practitioner.

Elevated levels of sugar in the bloodstream lead to severe physical health complications.

References

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