

Analyse and respond to client health information

[Health & Medicine](#), [Disease](#)



Case Study 1 – Endocrine, integumentary and neurovascular disorders

Q1) Diabetes Type 2 is the most common form of diabetes where the pancreas can still produce insulin however the body loses the ability to use the insulin it produces effectively, this is called insulin resistance, (“ Type 2 diabetes”, 2018). Cells don’t respond to insulin and the pancreas does not produce enough insulin for the body’s increased needs. If the insulin cannot do its job, the glucose channels do not open properly. Glucose builds up in the blood instead of getting into cells for energy. Type 2 diabetes results from a combination of genetic and environmental factors. Although there is a strong genetic predisposition, the risk of developing type 2 diabetes is significantly increased with factors that may be related to lifestyle choices including high blood pressure, high cholesterol and insufficient physical activity.

Q2) Poor blood circulation or loss of sensation due to diabetes-related nerve damage means that pressure on the skin goes unnoticed resulting in pressure ulcers. This also links back to Percy’s past medical history of peripheral neuropathy. It is the inability of the damaged skin to repair itself normally that result in ulceration.

Q3) Percy’s BGL recorded 2.7 mmol/l. This means his hypoglycaemic. I would get him to drink a soft drink or something with sugar in it. Then I would continue to check his BGL over the next 5 hours.

Q4) Percy’s wound is red and leaking fluid because it’s infected. Diabetes reduces the blood circulation to and around the wound site. A lack of

circulation in the extremities can result in a reduced supply of oxygen and nutrients to the body tissue and nerves, which is necessary for healing. Over time, nerves in these areas may become damaged, decreasing the sensation of pain, temperature and touch, making patients vulnerable to injury.

Q5) Endocrinologist An endocrinologist is a medical specialist who is trained to diagnose and manage diseases that affect the glands and the hormones. An endocrinologist aims to restore hormone balance within the body's systems. Endocrinologists commonly treat and provide expert advice on the management of diabetes. Dietitian A dietitian will work with the patient to develop a personalised healthy eating plan to suit their lifestyle, their type of diabetes and individual health needs. They can educate on how to read food labels, modify recipes and even how to order at restaurants to make healthier choices. Exercise physiologist/physiotherapist An exercise physiologist/physiotherapist can help to determine the appropriate exercise/activity plan for the patient individually suited to their needs and lifestyle. They will assist in increasing mobility and comfort.

Case Study two – Neurological and urinary disorders

Q6) Urinary Tract Infection due to positive levels in protein, nitrates and blood.

Q7) Risk factors for urinary tract infection include

- duration of catheterization – insertion
- aphasia – patients inability to speak makes it harder for her to alert physicians of burning sensation and pain when voiding

- CVA – stroke severity, depressed conscious level increased post-void residual urine volume

Q8) “ Fever is generally defined as a temperature above 38 degrees, and occurs when the hypothalamus increases the core body temperature in response to an infection” (Musselman & Saely 2013). Febrile temperatures operate as a systemic alert system that promotes immune surveillance during challenge by invading pathogens, (Koutoukidis, Stainton & Hughson, 2017)

Q9) TIA (Transient Ischaemic Attack) – occurs when the blood supply to the brain is blocked temporarily. When the blood supply is stopped, the brain cells in the area start dying, and you experience signs that something is wrong, (“ Transient ischaemic attack (TIA) — Stroke Foundation – Australia”, 2018). The signs and symptoms are similar to that of a stroke however they disappear within a short time and are often only present for a short time. After a TIA the risk of having a stroke is higher and often acts as a warning sign. CVA (Cerebrovascular Accident) – often referred to as a stroke. A stroke is a sudden loss of cerebral circulation, which causes cerebral infarction. The sudden death of some brain cells due to lack of oxygen when the blood flows to the brain is impaired by blockage or rupture of an artery to the brain. An embolic stroke occurs when a blood clot that forms elsewhere in the body breaks loose and travels to the brain via the bloodstream. When the clot lodges in an artery and blocks the flow of blood, this causes an embolic stroke.

Q10) Neurologist: This doctor is a specialist trained to treat disorders that affect the brain, spinal cord, and nerves, such as: Cerebrovascular disease, such as stroke. Speech Therapist: This professional helps you relearn language and communications skills. Speech therapists also help you deal with swallowing problems and develop alternative ways of communicating. Physiotherapist: uses exercises and physical manipulation of your body to help restore movement, balance and coordination. Physiotherapists can help you relearn movement skills, such as walking, sitting, lying down and switching from one type of movement to another. Case Study three – Respiratory, genetic and reproductive disorders

Q11) ‘ Cystic fibrosis is inherited as an autosomal recessive condition’, (“ Cystic Fibrosis – What is CF”, 2018), this means a child can only have the disease if both parents are carriers. Carriers have no symptoms; however they do carry a genetic change referred to as a “ mutation” that may be passed on to future generations. Because Madeline’s parents are both carriers there is a 1 in 4 (25%) chance that both passed on the non-functioning gene, (“ Cystic Fibrosis – What is CF”, 2018).

Q12) Cystic fibrosis causes the mucus that coats the bronchial tubes to become so thick and sticky that the cilia are unable to sweep the germs and other particles up and out of the lungs. The trapped bacteria lead to frequent, serious infections and permanent lung damage.

Q13) Most men with cystic fibrosis are infertile because of a blockage or absence of the sperm canal, known as congenital bilateral absence of the vas deferens (CBAVD). The sperm never makes it into the semen, making it

impossible for them to reach and fertilize an egg through intercourse. The absence of sperm in the semen can also contribute to men with CF having thinner ejaculate and lower semen volume.

Q14) Madeline will experience exacerbation of respiratory and other disease symptoms, requiring intensified treatments, if she decides to fall pregnant. Normal pregnancy is associated with significant respiratory, cardiovascular and metabolic changes. Although healthy women usually adjust easily to these changes, they may impose a considerable strain for women whose physiology is already severely compromised with cystic fibrosis.

- Increased risk of pulmonary infection
- Decreased pulmonary function
- Increased oxygen consumption

Q15) Pulmonologist: managing the care of chronic respiratory diseases is one of a pulmonologist's main duties. Pulmonologists also coach their patients on management of their illness, by making lifestyle changes or learning coping strategies to minimize their reliance on medications.

Respiratory Therapist: performs pulmonary function tests to measure the air flow and volume in your lungs. Assists with pulmonary therapies, which are designed to clear mucus (sputum) out of your lungs, control bacteria and reduce the inflammation of your airways. These therapies involve airway clearance techniques (ACTs) and inhaled or nebulized medications.

Physiotherapist: Physiotherapy management is a key element of care for people with cystic fibrosis. The lungs make mucus to help defend against

germs. Cystic fibrosis changes the mucus, making it thick and hard to clear. Brisk percussion of the chest wall helps to break up and dislodge mucus, so it can be more easily coughed out of the body.