



Pharmacist Course Brochure
2021

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2021 Courses

Acute and chronic lymphoid leukaemia

Acute lymphoblastic leukaemia (ALL) and chronic lymphocytic leukaemia (CLL) are haematological malignancies that arise from the clonal proliferation of blood cells of the lymphoid lineage. Despite this element of commonality, the two diseases are markedly different in terms of presentation, natural history and treatment. In both diseases, there have been significant developments in drug treatments over the past two decades, which will be discussed in this article.

Objectives

By the end of this course participants should be able to:

- Explain the difference between acute and chronic ALL and CLL
- Describe the presentation and diagnosis of ALL and CLL
- Provide an overview of treatment for ALL and CLL

Acute coronary syndrome: diagnosis and treatment

This course describes the different management options for acute coronary syndrome and the role of the pharmacists in supporting patients with acute coronary syndrome. Acute coronary syndrome (ACS) is a term that encompasses a range of coronary artery diseases from acute myocardial ischaemia to myocardial infarction (MI), depending on the degree and location of the obstruction.

Objectives

By the end of this course, participants will be able to describe in terms of acute coronary syndrome:

- Pathophysiology
- Risk factors
- Symptoms
- Diagnosis
- Management
- Rehabilitation, and
- Secondary prevention

Anaphylaxis, symptoms, causes and diagnosis

Anaphylaxis normally develops suddenly and can be fatal if not correctly identified and managed. Pharmacists across all sectors will need to counsel patients who are diagnosed with anaphylaxis about the use of their medicine, as well as provide advice on trigger avoidance. For those who are not diagnosed, pharmacists can provide information about the tests that are undertaken to determine allergy status. This course will discuss the main symptoms and risk factors for anaphylaxis, and how it is diagnosed.

Objectives

By the end of this course participants should be able to:

- Explain the mechanisms of an allergic reaction
- List the signs and symptoms of an allergic reaction
- Describe the causes of an allergic reaction
- Explain the risk factors of an allergic reaction, and
- Describe the diagnosis of an allergic reaction

Anaphylaxis management

Anaphylaxis is potentially life-threatening; therefore, pharmacists must be able to immediately recognise symptoms and know how to treat patients. This course will outline different treatment options with a focus on the use of adrenaline in patients with anaphylaxis and prevention strategies.

Objectives

By the end of this course participants will be able to:

- Explain the management of anaphylaxis in community pharmacy or primary care
- Explain the administration of adrenaline
- Explain the management of anaphylaxis in hospital
- Describe the prevention of anaphylactic reactions

Benzodiazepine Misuse

Benzodiazepines are a class of medicines that have anxiolytic, hypnotic, muscle-relaxing, and anticonvulsive properties. Sometimes referred to as 'benzos', they are most often prescribed for their anxiolytic and hypnotic effects. Besides a revision of this class of medicine, this course will also cover their misuse.

Objectives

By the end of this course participants will be able to:

- Explain the mechanism of action of benzodiazepines
- Describe the indications of benzodiazepines
- List common short and long term side effects
- Explain why benzodiazepines are misused
- Describe the diagnosis of "benzodiazepine use disorder"
- How to withdraw from long-term benzodiazepine use

Common Foot Conditions

Maintaining good foot health can help people remain active and prevent the complications of conditions such as diabetes and rheumatoid arthritis.^{1,2} Keeping active can reduce the risk of peripheral arterial disease and therefore the associated risk of cardiovascular disease.³ This module covers a selection of the most common musculoskeletal, dermatological and diabetes-related conditions affecting the feet.

Objectives

After completion of this course participants should:

- Be able to identify some of the most common foot conditions
- Recognise 'red flags' when assessing diabetic patients
- Know how to suggest appropriate self-care treatment and when to refer to a GP or podiatrist.

Colorectal Cancer

Community pharmacists can make a significant contribution to decreasing colorectal cancer morbidity and mortality by encouraging screening, encouraging their customers to discuss signs and symptoms with their GP, and by providing advice on modifiable diet and lifestyle risk factors.

Objectives

After completing this activity, pharmacists should be able to:

- describe the epidemiology of colorectal cancer; list modifiable and non-modifiable risk factors for colorectal cancer;
- outline signs and symptoms, screening and diagnosis, and stages of colorectal cancer;
- provide an overview of the treatments used for colorectal cancer;
- describe the role of pharmacists in bowel cancer awareness, and in counselling individuals receiving

Diabetes & Mental Health

Pharmacists can contribute to the psychological and emotional wellbeing of people living with diabetes by helping to identify those who have mental wellbeing needs, optimising treatment and minimising risk factors.

Objectives

By the end of this course, participants will be able to:

- Provide screening and referral in the pharmacy setting
- Discuss mental healthcare planning
- Address eating disorders

Eating Disorders

Eating disorders are a group of psychological disorders typically characterised by pathological disturbances associated with attitudes and behaviours related to food, body weight control, and a severe concern with body weight or shape.

Objectives

By the end of this course, participants should be able to

- identify what is meant by eating disorders;
- describe the differences between the eight eating disorders listed by DSM-5;
- describe some of the treatments utilised in eating disorders;
- describe some of the treatments utilised in eating disorders;

Diagnosing gastrointestinal infections

Gastrointestinal (GI) infections are associated with an array of symptoms, with many causing diarrhoea and vomiting. Transmission of infectious material can occur through various routes such as food, person to person contact, faecal-oral, or through the air/environment. Transmission is affected by the causative organism and therefore the advice given to patients should be assessed on a case-to-case basis.

Objectives

From this pharmacy CPD module participants will learn:

- Which patient groups are most at risk of gastrointestinal (GI) infections
- When patients should be excluded from work/school following a GI infection
- Symptoms and common clinical features of common GI infections
- What advice to give patients for managing their symptoms

Gonorrhoea infection- diagnosis and treatment

Gonorrhoea is a sexually transmitted infection (STI) caused by the Gram-negative bacterium *Neisseria gonorrhoeae* (*N. gonorrhoeae*) that primarily affects the urogenital tract and rectum, as well as extragenital sites, such as the pharynx, endocervix and conjunctiva. Pharmacy teams can help prevent transmission and promote good sexual health practices by identifying patients at risk.

Objectives

By the end of this course participants should be able to:

- Identify the signs and symptoms of gonorrhoea
- The diagnosis and treatment of gonorrhoea and
- Opportunities for pharmacy

Haemorrhoids: causes, evaluation and management

Haemorrhoids are common in the Western world, although incidence is difficult to quantify as only a minority of sufferers seek treatment. Although most cases are straightforward to treat, complications can occur. Careful evaluation is important to rule out other causes. This course covers haemorrhoid risk factors and symptoms, identifying 'red flags' and the latest guidance on management.

Objectives

After studying this module you should:

- Understand the risk factors for haemorrhoids
- Be able to ask key questions to guide treatment or referral
- Gain confidence in giving advice to sufferers to help manage symptoms

Impetigo - causes, symptoms and diagnosis

Impetigo is a contagious bacterial skin infection. It can affect people of any age, however, it is most common in children.

Objectives

After studying this module you should:

- The types and causes of impetigo
- The typical symptoms of impetigo and how it is diagnosed
- How impetigo is treated
- Advice to give to patients to prevent the recurrence and spread of impetigo

Insomnia Diagnosis

Broadly defined as a difficulty initiating or maintaining sleep, insomnia disorder (or insomnia), is an often neglected diagnosis. At least one in three people will experience insomnia that can cause sleeplessness or waking without feeling refreshed, during their lifetime. This ultimately impairs daytime function causing tiredness, impaired concentration and mood disturbance.

Objectives:

By the end of this course, the participant should be able to

- provide an overview of sleep and the disorders associated with it,
- consider how pharmacists and other healthcare professionals can recognise, diagnose and potentially prevent this disorder.

Insomnia Management

In a previous course 'Insomnia disorder: diagnosis, naturalistic sleep was examined as a physiological process and insomnia was discussed as a pathophysiological disordering of this, influenced by psychiatric, somatic and environmental factors. This course focuses on the clinical management of insomnia, presenting pharmacological and psychological strategies as different, yet not necessarily mutually exclusive, means of treating the disorder. As a frontline profession, it is important that pharmacists understand how sleep disturbances should be managed and how to best counsel patients in this regard.

Objectives

By the end of this course, the participant will be able to explain

- Cognitive-behavioral therapy for insomnia
- Pharmacotherapy of insomnia
- The safe prescribing of hypnotics

Management of prediabetes

Non-diabetic hyperglycaemia (NDH) or prediabetes refers to blood glucose levels above the normal range but not sufficiently high for a diagnosis of diabetes. Every year 5-10 per cent of these patients will progress to diabetes but there is a lot pharmacists can do to help prevent or delay this.

Objectives

By the end of this course, participants will be able to

- describe the extent of the problem,
- identify patients with risk factors for prediabetes develop individualised plans to support patients to reduce their risk of being diagnosed with type 2 diabetes.
- develop individualised plans to support patients to reduce their risk of being diagnosed with type 2 diabetes

Managing hypertension - Non Drug Treatment

There are several lifestyle factors that increase a person's risk of hypertension, which are detailed below. This course will discuss the evidence base for how diet and exercise could support patients in the self-management of their condition, and how pharmacists and their teams can deliver this healthy living advice.

Objectives

By the end of this course, participants will be able to:

- Explain the causes and risks of hypertension.
- Describe modifiable risk factors
- Describe the symptoms, diagnosis and non-pharmacological management of hypertension
- Describe the transtheoretical model of behavioural change
- The role of pharmacy.

Panic Disorder and Panic Attacks

A panic attack can be described as a sudden onset of intense apprehension and fearfulness in the absence of actual danger, accompanied by the presence of physical symptoms such as heart palpitations, difficulty in breathing, chest pain or discomfort, choking or smothering sensations, sweating and dizziness. Panic disorder is characterised by frequent panic attacks that are unrelated to specific situations, and the worry about having more panic attacks. Patients with panic disorder frequently present to emergency departments with chest pain or dyspnoea, fearing they are dying of a heart attack.

Objectives

After completing this course, pharmacists should be able to:

- describe panic disorder;
- describe symptoms of a panic attack;
- discuss the use of cognitive behaviour therapy (CBT) in assisting people with panic disorder;
- describe the psychological treatment of panic disorder;
- describe the pharmacological treatment of panic disorder.

Perinatal mental health

Perinatal mental illness is a major public health issue that can have devastating effects on women and their families. Around half of all cases of perinatal depression and anxiety go undetected, with many mothers feeling unable to ask for help. Improved awareness and detection of mental health problems by midwives, GPs, and pharmacists will enable more women to access appropriate and timely care.

Objectives

- Have an understanding of perinatal mental health problems and their effects on mum and baby.
- Be aware of the risk factors for perinatal mental illness.
- Know when to refer women for specialist or emergency assessment.

Polypharmacy

There are several tools pharmacists can use when assessing a patient's medicines; however, patient input and appropriate questions can have a profound impact in ensuring medicines optimisation.

Objectives

By the end of this course participants will be able to:

- Describe why polypharmacy is important
- Describe the role of the pharmacist in tackling polypharmacy
- Describe increasing patient engagement

Preconception planning

Key foetal developmental milestones occur in the first few weeks of pregnancy before many women know they are pregnant. These include the development of organs, which are completely formed by the 12th week of pregnancy (10 weeks after fertilisation). This is also the 'danger zone' of pregnancy, with the majority of malformations occurring during this period. Pharmacists can support all women of childbearing age regarding preconception health, including assessment of medication safety, and supplementation needs.

Objectives

- recognise the role of pharmacists in preconception planning;
- recognise key adjustments to chronic disease management suggested in pregnancy;
- recognise the influence of pharmacogenomics on medication management in pregnancy;
- recognise medication classes that require discussion during preconception planning.

Schizophrenia: recognition and management

Common medicines used to manage schizophrenia have many side effects that can cause significant morbidity. Regular monitoring and support can ensure patients improve outcomes.

Objectives

By the end of this course participants should be able to explain:

- The etiology of schizophrenia
- Diagnosis and symptoms of schizophrenia
- Symptoms that overlap with other psychotic disorders
- Children and younger people
- Pharmacological treatment
- Psychological treatment

Sports injuries- causes and treatment

Regular exercise can improve health and reduce the risk of disease. However, sports and exercise can also lead to injuries, which can range from minor to traumatic. The type and extent of these injuries are vast.

Objectives

By the end of this course, participants will have learned about

- different types of common sports injuries and their causes
- symptoms and treatment options
- likely outcomes and when to refer for medical attention
- practical advice about prevention of sports injuries

Tetanus

Although most people in SA will be vaccinated against tetanus as a child, immunity does not always persist into adulthood. It is important that pharmacists can recognise the symptoms and know the treatments available for this disease.

Objectives

By the end of this course participants should be able to:

- Describe the causes and transmission
- Provide an overview of the symptoms of various types of tetanus.
- Explain the diagnosis of tetanus
- Describe treatment for patients with or without symptoms
- Provide an overview of vaccination in SA

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Chronic complications of diabetes

Chronic hyperglycaemia in poorly controlled diabetes is associated with damage, dysfunction and failure of many organ systems. Consistently raised blood glucose levels can result in damage to blood vessels throughout the body. Even mildly raised levels that do not result in symptoms can have lasting, damaging effects on blood vessels, nerves and organs.

Course Objectives:

By the end of this course participants should be able to explain:

- The main chronic complications of diabetes
- Prevention strategies
- How complications are treated
- Practical advice to help patients manage these

COPD risk factors and diagnosis

COPD is a long-term respiratory condition where the flow of air into the lungs is restricted (obstructed). This common condition is both preventable and amenable to symptomatic treatment.

Course Objectives:

By the end of this course participants should be able to explain:

- Who is commonly affected by chronic obstructive pulmonary disease (COPD)
- Risk factors for the development of COPD
- How it is diagnosed and common differential diagnoses
- How to assess the prognosis for patients

COPD Treatment and Management

Treatment of chronic obstructive pulmonary disease (COPD) is aimed at preventing and controlling symptoms, reducing the severity and number of exacerbations, increasing exercise tolerance and reducing mortality. The approach to treatment should involve an appropriate assessment of the disease state, pharmacological and non-pharmacological measures, patient education, reduction in risk-factor exposure, and the prevention and treatment of acute exacerbations. A multidisciplinary approach is needed, as this has been shown to increase the patient's quality of life and reduce the number of hospital admissions.

Course Objectives:

By the end of this course participants should be able to explain:

- Treatment options for stable COPD
- Treatment options for exacerbations
- Non-pharmacological management
- Advice and information pharmacists can offer patients

Dementia – Update

Dementia is the umbrella term for a number of neurological conditions, of which the major symptom includes a global decline in brain function. Dementia was a relatively rare occurrence before the 20th century as fewer people lived to old age in pre-industrial society. It was not until the mid-1970s that dementia began to be described as we know it today.

Course Objectives:

By the end of this course participants should be able to:

- describe what is meant by dementia;
- discuss the prevalence of dementia;
- identify risk factors for dementia;
- describe therapy options and practical tips to help minimise risk;
- discuss the role of carers;
- identify multimodal management strategies, including non-drug approaches.

Diabetic Foot

Foot problems are a significant cause of morbidity in patients with diabetes mellitus. The lifetime incidence of foot ulcers has previously been estimated to be 15–25% among persons with diabetes, but when additional data is considered, between 19% and 34% of persons with diabetes are likely to be affected.

Course Objectives:

By the end of this course participants should be able to:

- list common diabetic complications affecting the foot;
- describe the pathophysiology and presentation of common diabetic foot complications;
- discuss the treatment options for diabetic foot ulcers.

Diagnosis and management of type 2 diabetes mellitus

More than a third of people who require kidney dialysis or a kidney transplant have diabetes^[6]. Patients who effectively control their blood glucose levels and blood pressure are less likely to experience complications of diabetes.

Course Objectives:

By the end of this course participants should be able to explain:

- Causes
- Pathophysiology
- Risk factors
- Symptoms
- Diagnosis
- Management
- Pharmacy Interventions

Dry Eye Syndrome

Dry eye, also known as keratoconjunctivitis sicca, is a common complaint with about one in 10 people affected by this condition.¹ Dry eye syndrome can have a significant impact on quality of life. While most patients have mild disease, in rare cases, dry eye can be severe enough to progress to corneal ulceration.

Course Objectives

By the end of this course participants should be able to:

- outline the causes of dry eye syndromes;
- list the risk factors for the development of dry eye;
- list the symptoms of dry eye.

Endometriosis: symptoms, diagnosis and management

Endometriosis can be a chronic and debilitating condition. It is often difficult to diagnose, taking an average of 7.5 years for a complete diagnosis to be made, owing to the non-specificity of presenting symptoms. This delay can result in decreased quality of life for patients. Healthcare professionals, including pharmacists, have an important role to play in identifying the signs and symptoms of endometriosis to support diagnosis at the earliest possible opportunity.

Course Objectives

By the end of this course participants should be able to describe endometriosis in terms of:

- signs and symptoms
- pathophysiology
- risk factors
- diagnosis
- pharmacological and non-pharmacological management
- complications and prognosis and the
- role of the pharmacist

Fat-soluble vitamin deficiency

Vitamins are organic compounds necessary for growth and nutrition; however, they cannot be synthesised in the body. Each vitamin has a particular function in the body, with some needed in larger quantities than others.

Course Objectives

By the end of this course participants should be able to explain:

- Fat-soluble vitamins and their role in physiology
- Food sources and symptoms of deficiency
- Interactions between vitamins and medication
- Patient groups vulnerable to deficiency and advice pharmacists can offer about diet and supplementation

Headache

Headache is among the most common adverse health conditions, affecting four fifths of women and two thirds of men each year. Over 90 per cent of people will experience a headache at some point during their life time, with tension-type headaches (TTH) accounting for half of all headaches experienced.

Course Objectives

By the end of this course participants should be able to explain:

- The key distinguishing features of common types of headache and migraine
- Symptoms to look out for other than head pain
- How different patient groups may be affected
- Management approaches, including current recommendations

Heart failure, older people and frailty

Despite extensive research defining prevalence and outcomes for frail patients in a heart failure population, there is little in-depth knowledge about the treatment and management of this cohort to improve outcomes.

This course will discuss the diagnostic criteria and the treatment options available, including the pharmacokinetic and pharmacodynamic considerations in older, frail people with heart failure.

Course Objectives

By the end of this course participants should be able to describe the following in terms of heart failure, older people and frailty:

- Diagnosis, signs and symptoms
- Investigations
- Treatment
- Pharmacokinetics and Pharmacodynamics
- Holistic care and palliation

Hospital Prevention of Venous Thromboembolism

Hospitalisation is known to increase the risk of developing venous thromboembolism (VTE) — a condition that most commonly includes deep vein thrombosis (DVT) or pulmonary embolism (PE). Hospital-acquired VTE, also known as hospital-associated or hospital-acquired thrombosis (HAT), causes a significant number of deaths, is the leading cause of preventable hospital mortality and includes any VTE that develops while a patient is in hospital or within 90 days of their discharge.

This article summarises some of the changes made regarding the use of pharmacological thromboprophylaxis (TP) and, where available, briefly discusses the evidence base from which the recommendations were made.

Course Objectives

By the end of this course participants should be able to explain:

- Assessment of risk of venous thromboembolism
- Dosing of pharmacological thromboprophylaxis
- Interventions for different population groups.
- Role of the pharmacist

Joint Pain

Although osteo-arthritis (OA) is the most common musculoskeletal condition causing chronic peripheral joint pain, other potentially serious causes of joint or bone pain include gout, other inflammatory arthritides, infection, fractures, malignancy, and radicular or neuropathic pain.

Course Objectives

By the end of this course participants should be able to describe:

- Core treatments for peripheral joint pain
- Adjunctive treatment
- Alternative treatment

Malabsorption syndrome: causes, symptoms, diagnosis and management

When certain nutrients and fluids are not absorbed correctly by the small intestine, it is referred to as malabsorption syndrome. These nutrients may be macronutrients (proteins, carbohydrates and fats), micronutrients (vitamins and minerals) or both. The overall outcome of malabsorption syndrome is malnutrition.

Course Objectives

By the end of this course participants should be able to explain:

- What malabsorption syndrome is and the main causes of this disorder
- Symptoms suggestive of malabsorption syndrome and tests used for diagnosis
- Impact of the disorder on people's lives and how it can be treated
- Practical advice pharmacists can offer patients

Management of acute upper gastrointestinal bleeding

Acute upper gastrointestinal bleeding (AUGIB) is defined as bleeding from the upper gastrointestinal tract, normally from the oesophagus, stomach or duodenum. Its underlying causes most commonly include peptic ulcer disease and oesophageal or gastric varices. The majority of patients with AUGIB will present to hospital; therefore, this article focuses on hospital assessment and provides an overview of the available treatments.

Course Objectives

By the end of this course participants should be able to explain:

- Risk factors for acute upper gastrointestinal bleeding (AUGB)
- Presentation and diagnosis of AUGB
- Pre-endoscopic management
- Pre-endoscopic pharmacological agents
- Endoscopic therapy
- Failure of endoscopic therapy
- Post-endoscopic management

Management of anaemia in adults with chronic kidney disease

Anaemia (a low haemoglobin [Hb] level) is a complication of chronic kidney disease (CKD) that becomes more prevalent with advancing kidney dysfunction and is one of the most characteristic manifestations of CKD. This course provides an overview of the treatments for anaemia in chronic kidney disease and the tests needed to prescribe and assess their effectiveness.

Course Objectives

By the end of this course participants should be able to explain the:

- Prognosis of chronic kidney disease by glomerular filtration rate and albuminuria
- Pathophysiology of Anaemia in Chronic Kidney Disease (ACKD)
- Diagnosis of anaemia of ACKD
- Management ACKD
- Risks of treatment

Management of post-operative nausea and vomiting in adults

Post-operative nausea and vomiting (PONV) is an umbrella term that covers nausea and vomiting following any surgical procedures. Nausea and vomiting in combination are reflexes designed to protect against the absorption of toxins, but olfactory, visual, vestibular and psychogenic triggers also exist, which have implications for hospital ward environments where PONV can spread around the bay.

This course describes the extent of PONV in adults, the risk prediction tools used and the interventions that reduce baseline risk. The importance of optimal management and prevention strategies are discussed in the context of the evidence base supporting pharmacological and non-pharmacological interventions in this field.

Course Objectives

By the end of this course participants should be able to:

- The physiology of post-operative nausea and vomiting in adults.
- Patient Risk for PONV
- Anti-emetic prophylaxis
- Administering prophylactic anti-emetic therapy to children
- Ensure PONV prevention and treatment is implemented in the clinical setting

Neuropathic pain

Neuropathic pain is a type of chronic pain that results from damage to the nerves. It can present as sensory, motor and autonomic changes. It is defined as pain caused by a lesion or disease of the somatosensory nervous system – the part of the sensory system involved with the conscious perception of touch, pain, temperature, pressure, position and movement, which comes from the muscles, joints and skin. Neuropathic pain can be classified as peripheral or central, depending on whether it is the central or peripheral somatosensory nervous system that is affected.

Course Objectives

By the end of this course participants should be able to:

- The causes, risk factors and symptoms of neuropathic pain
- How the condition is diagnosed and managed, including non-pharmacological options
- Self-care advice that pharmacists and their teams can offer to patients

Pain Management

Given that most complex pain syndromes and palliative symptom management involve a wide range of medicines alone or combined for purposes of pain management and other comorbid conditions, it is incumbent on pharmacists to seek professional advancement in pain management and secure a comprehensive role as interdisciplinary healthcare team members in all practice settings.

Opportunities for medication therapy management, responsibilities for the pharmacist provider, and the key role that pharmacists can provide for quality pain management outcomes are identified in this CPD activity.

Course Objectives

By the end of this course participants should be able to:

- Describe the differences between acute and chronic pain.
- Describe the classification of pain and its presentation/symptoms
- Describe the different types of drug treatment for pain
- Discuss the role of the pharmacists in assessing and monitoring pain

Palliative management in end-stage liver disease

Patients with end-stage liver disease (ESLD) experience reduced quality of life owing to a variety of symptoms, but with the possibility of alleviation of symptoms following a liver transplant. However, there can be a long waiting time for transplantation, with patients eventually becoming too ill for a major surgical procedure.

This course will discuss the main symptoms that affect quality of life in patients with ESLD and how these can be managed pharmacologically.

Course Objectives

By the end of this course participants should be able to:

- Alcohol withdrawal assessment and management
- Management of varices, encephalopathy, muscle cramps, and pain
- Medical and interventional management of Ascites and
- Pruritis management.

Palpitations, Arrhythmias and QT Prolongation

Palpitations are an unpleasant pounding or racing of the heart. They are associated with normal emotional responses and heart disorders. Some people may complain of pounding of the heart and display no evidence of heart disease, whereas others with serious heart disorders may not detect associated abnormal palpitations.

Palpitations are the perceived abnormality of the heartbeat characterised by awareness of cardiac muscle contractions in the chest, which is further characterised by the hard, fast and/or irregular beatings of the heart.

Course Objectives

By the end of this course participants should be able to:

- define palpitations;
- describe the symptoms of palpitations;
- describe the various types of arrhythmias;
- describe what QT-interval is and its causes;
- recognise the drugs that may cause prolongation of QT-interval;
- counsel patients exhibiting symptoms of palpitations as to their course of action.

Smoking and potential drug interactions

From a treatment perspective, smoking behaviour has a pharmacological impact on several commonly used drugs. This impact can be clinically significant; therefore, the pharmacokinetic and pharmacodynamic impact of smoking should be considered in medicine selection, as well as the introduction and cessation of other therapies. This article aims to outline the considerations pharmacists and other healthcare professionals should be aware of in this context, including the impact of smoking cessation on a drug's pharmacology and what should be done in practice to avoid the associated effects.

Course Objectives:

By the end of this course participants should be able to explain:

- Nicotine pharmacology
- Pharmacokinetic and pharmacodynamic interactions
- Pharmacotherapies used to support smoking cessation
- E-cigarettes

Testosterone deficiency: diagnosis, assessment and treatment

Male hypogonadism can significantly affect health and quality of life; however, diagnosis and management can be challenging.

For a diagnosis of testosterone deficiency (TD) — or male hypogonadism — to be made, a male patient should present with evidence of a reduction in serum testosterone levels, as well as sexual, psychological and physical symptoms affecting their physical and mental wellbeing.

This article will discuss the signs and symptoms associated with TD, as well as the available management options.

Course Objectives

- By the end of this course participants should be able to explain:
- The main chronic complications of diabetes
- Prevention strategies
- How complications are treated
- Practical advice to help patients manage these

Vitamin deficiency: water-soluble vitamins

Vitamins are organic compounds essential for growth and nutrition, and each have a different role within the body. Some vitamins are needed in larger quantities than others and most vitamins needed come from dietary sources – this is because they cannot be synthesised in the body.

It is important to understand the benefits and risks associated with vitamin supplementation in order to provide pharmacy customers with accurate information.

Course Objectives:

By the end of this course participants should be able to explain:

- Water-soluble vitamins and their role in physiology
- Food sources and symptoms of deficiency
- Interactions between vitamins and medication
- Groups vulnerable to deficiency and advice pharmacists can offer about diet and supplementation