

## **ENDOCRINOLOGY CLINIC**

#### WHAT IS ENDOCRINOLOGY?

Endocrinology involves the diagnosis and treatment of diseases that involve hormones (produced by the endocrine glands in the body).

Endocrinologists, treat patients with a wide range of endocrine (hormonal) disorders. Working closely with doctors in neurosurgery and endocrine surgery, as well as whole team of support staff, we can diagnose and treat a wide range of conditions including:

Bone disorders

Weight problems

Calcium balance disorders

Thyroid disorders

Disorders of glucose and lipid metabolism (including diabetes)

#### WHAT WE OFFER

At QUICKCARE Hospital Lagos, we treat a wide range of pituitary disorders. You will have access to the latest screening services, a choice of diagnostics and treatment options, and step-by-step support throughout your treatment journey.

Our doctors have a wealth of experience in treating patients with many conditions. Our treatments are evidence-based, and fully integrated with international standards. We also provide educational information about your condition so that you can make informed decisions at every stage of your treatment.

If you would like to know more about the endocrinology treatments we provide please get in touch.

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ADRENAL DISORDER TREATMENTS

**BONE DISORDER TREATMENTS** 

**CALCIUM BALANCE DISORDERS** 

DISORDERS OF GLUCOSE AND LIPID METABOLISM

**GONADAL DISORDERS TREATMENTS FOR ADULTS** 

**GROWTH AND DEVELOPMENT DISORDERS** 

PITUITARY DISORDERS

THYROID CANCER TREATMENT

THYROID DISORDER TREATMENTS

TREATING WEIGHT PROBLEMS

ADRENAL DISORDER TREATMENTS

ADRENAL DISORDER TREATMENTS

Our Endocrinologists at QUICKCARE Hospital Lagos are experts in a wide range of adrenal disorders. The adrenal glands, which are small glands found on each kidney, produce essential hormones including sex hormones and cortisol. Cortisol is responsible for regulating the metabolism (break down) of carbohydrate, fat and protein and also works with two other chemicals in the body, adrenaline and noradrenaline, to regulate the body's response to stress.

Adrenal gland disorders happen when the gland makes too much or too little hormone. The causes of adrenal gland problems include:

**Tumours** 

Inherited (genetic) problems

Infections

Problems with another gland such as the pituitary gland (which helps to control the adrenal gland)

Medications for other conditions

Symptoms caused by adrenal disorders vary, depending on whether it is making too much or too little cortisol. Treatments for adrenal disorders depend on the specific problem; however, in most cases we can use surgery or medication to treat many adrenal gland problems.

Our Endocrinology Clinic can treat a wide range of adrenal disorders in adults, including:

## ADDISON'S DISEASE (ADRENAL INSUFFICIENCY)

Addison's disease is a rare condition that can affect men and women of any age. It's caused when the adrenal glands don't produce enough cortisol (and in some cases also a hormone called aldosterone). Symptoms include weight loss, weakness in the muscles, fatigue (extreme tiredness), low blood pressure and darkening of the skin. It can be caused by:

Primary adrenal insufficiency: damage to the adrenal glands as part of an autoimmune disorder

Secondary adrenal insufficiency: caused by a lack of ACTH, which results in the adrenal glands producing less cortisol

Your doctor will be able to advise you about your treatment options for Addison's disease, which usually involve having hormone replacement medication.

#### **CUSHING'S SYNDROME**

Cushing's syndrome is rare, usually affecting adults aged 20-50, with women three times more likely to develop it than men. It's caused when the adrenal glands produce too much cortisol. Symptoms include weight gain; thin skin that is easily bruised; weak bones or muscles; decreased libido (sex drive); fat deposits on the face; dark red stretch marks on the thighs, stomach, buttocks, arms, legs or breasts. It can be caused by long term treatment with steroid medication and, in some cases, a tumour (known as endogenous Cushing's syndrome).

Your doctor will be able to advise you about your treatment options which can involve reducing or stopping steroid medication or, for endogenous Cushing's syndrome, surgery to remove the tumour.

#### **PHEOCHROMOCYTOMA**

Pheochromocytoma is a tumour of the adrenal gland. It causes the excessive release of hormones that regulate the heart and blood pressure (epinephrine and norepinephrine). Symptoms include: panic

attacks; headaches; hot flushes; sweating; palpitations; high blood pressure; mood swings; and weight loss. In most cases the tumour is benign but in some cases, they can be malignant (cancerous).

Your doctor will be able to advise you about your treatment options, which will depend on the type and size of tumour but can involve surgery, chemotherapy, drugs to lower blood pressure, and/or radiotherapy.

## **HYPERALDOSTERONISM**

Hyperaldosteronism, sometimes called aldosteronism, is when the adrenal glands produce too much of the hormone aldosterone into the bloodstream. Primary hyperaldosteronism is caused by problems in the adrenal glands themselves, whereas secondary hyperaldosteronism can be caused by a problem somewhere else in the body, causing the adrenal glands to over-produce the hormone. It's more common in men and women aged 30-50 and symptoms include high blood pressure, fatigue (extreme tiredness), weakness of the muscles, numbness, paralysis that comes and goes, and a high level of calcium in the blood.

Primary hyperaldosteronism is normally caused by a benign (non-cancerous) tumour in the adrenal gland and it is treated with surgery whereas secondary hyperaldosteronism can usually be treated with medication and by limiting salt intake.

Your doctor will discuss your treatment options with you and advise you on the best treatment for your condition.

## **RENIN-SECRETING TUMOURS (RENINOMAS)**

Reninomas are benign (non-cancerous) tumours that produce excessive amounts of renin, an enzyme that is produced and stored in the kidneys that regulates blood pressure. Symptoms include high blood pressure, fatigue (extreme tiredness) and nausea. Your doctor will advise you on the best treatment which may be surgery to help reduce your blood pressure levels.

## NON-FUNCTIONING ADRENAL TUMOURS (ADENOMAS)

Adenomas are rare, benign (non-cancerous) tumours on the adrenal gland. In many cases, they do not cause any symptoms and may not need to be treated.

If you would like to know more about the adrenal disorders and the treatments we can offer, please get in touch. The consultants at our medical centres have extensive experience and expertise in treating the full range of adrenal disorders. We'll work with work with you to diagnose the issue and ensure you receive the best possible care. To find out more or to arrange an appointment contact us here.

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## **BONE DISORDER TREATMENTS**

#### BONE DISORDER TREATMENTS

Metabolic bone disorders are often caused by lack of vitamins and minerals including calcium, phosphorus, and vitamin D. The most common bone disorders include Osteoporosis and Paget's disease.

Our Endocrinology Clinic can diagnose and treat a wide range of bone disorders, including:

#### **OSTEOPOROSIS**

Osteoporosis occurs when the bones become thinner and weaker, causing them to be brittle. The first sign is often breaking a bone after only a minor fall or accident but, in some cases, people also have long term back pain if the bones in the spine are affected.

Osteoporosis affects around four times as many women as men and the risk increases as you get older.

You're more likely to have osteoporosis if:

You've had long term steroid treatment

You have a family history of the condition

You don't take much exercise

You smoke or drink excessively

Our team of endocrinologists can diagnose your condition and discuss treatment options with you, which may include dietary supplements, weight-bearing exercise and cutting back on smoking and alcohol.

## PAGET'S DISEASE OF BONE

Paget's disease of bone is when the body's normal method of renewing bone is interrupted which causes bones to become weaker and, in some cases, deformed. It's more common in older people and can cause long term (chronic) pain.

Symptoms can affect one or more bones, often in the pelvis, spine and skull. You may experience bone pain, joint pain (with stiffness and swelling), and shooting pains as well as numbness, tingling and even loss of movement in a part of the body. However, some people don't experience any symptoms.

One of our team of endocrinologists will diagnose your condition and discuss your treatment options with you, which may include medication and supportive therapies such as physiotherapy, as well as surgery if necessary.

If you would like to know more about bone disorders, and the treatments we can offer, please contact us. Our consultants have an extensive experience and expertise in treating bone disorders. We'll work with work with you to diagnose the issue and ensure you receive the best possible care. To find out more or to arrange an appointment contact us.

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**CALCIUM BALANCE DISORDERS** 

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Calcium is essential to build strong bones and teeth, as well as the regulation of muscle contractions (including the heartbeat). It's also essential in making sure that our blood clots normally. Lack of calcium can lead to a number of bone conditions including rickets (which affects bone development in children) and osteoporosis in adults.

Our Endocrinology Clinic diagnoses and treats a wide range of calcium balance disorders, including:

HYPOPARATHYROIDISM AND HYPERPARATHYROIDISM 'Parathyroid' means 'near the thyroid'. Four parathyroid glands, each about the same size as a grain of rice, sit behind the thyroid gland in the neck. They produce parathyroid hormone (PTH) which regulates levels of calcium, phosphorus and vitamin D in the bones and blood.

Hypoparathyroidism and hyperparathyroidism are rare conditions that occur when the parathyroid glands in the neck produce too little parathyroid hormone (hypoparathyroidism) or too much parathyroid hormone (hyperparathyroidism).

HYPOPARATHYROIDISM: this causes blood calcium levels to fall (hypocalcaemia) and the levels of phosphorous in the blood to rise (hyperphosphataemia). Symptoms vary but can include tingling in the hands or feet, muscle spasms and cramps, as well as fatigue, anxiety and depression.

HYPERPARATHYROIDISM: this is when blood calcium levels rise (hypercalcaemia) and levels of phosphate to fall (hypophosphataemia). Symptoms can include depression, tiredness, feeling thirsty, muscle weakness, and – in some cases – confusion.

Your doctor will be able to discuss your treatment options with you, which will normally involve taking supplements to restore the correct balance of PTH.

VITAMIN D DEFICIENCY Vitamin D helps the body to use calcium to build strong bones. Lack of vitamin D can lead to rickets, a developmental problem in children where the bones don't form properly, which can lead to deformity. Symptoms in adults include bone pain, muscle weakness, soft or brittle bones and, in some cases, difficulty in thinking clearly.

INHERITED DISORDERS OF CALCIUM BALANCE

Endocrinologists at our Hospitals treat a range of inherited disorders of calcium balance. These include:

INHERITED HYPOPARATHYROIDISM (when the parathyroid glands in the neck produce too little parathyroid hormone), is a rare condition that is caused by a mutation in the calcium sensing receptor. It affects children or adults with a genetic disorder called Di-George syndrome, where the parathyroid glands are missing at birth

INHERITED HYPERPARATHYROIDISM, a rare condition that is normally diagnosed during early childhood

Whether your suffering from Hyperparathyroidism, vitamin deficiency or any other calcium balance disorder, contact us. Our endocrinologists are experienced in treating a variety of calcium and thyroid disorders and can assist you in finding the ideal treatment.

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DISORDERS OF GLUCOSE AND LIPID METABOLISM

DISORDERS OF GLUCOSE AND LIPID METABOLISM

The pancreas produces a hormone called insulin, which is essential in digesting carbohydrates and breaking them down into glucose. Insulin transports glucose into the cells of the body so that it can be used as fuel for energy. Insulin is sometimes described as a 'key that opens doors to the cells, allowing glucose to enter'.

Our Endocrinology Clinic can diagnose and treat a wide range of disorders of glucose and lipid metabolism.

If you would like to know more about the glucose and lipid metabolism disorder treatments we offer, please get in touch with our clinic. Our consultants have extensive experience and expertise in these disorders. We'll work with work with you to diagnose the issue and ensure you receive the best possible care. To find out more or to arrange an appointment contact us here.

HIGH CHOLESTEROL (HYPERLIPIDEMIA)

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Cholesterol is an essential fatty substance, or 'lipid', in our blood and is vital if our bodies are to function normally. Although high levels of cholesterol do not give us any symptoms, having too many lipids in the blood can affect our health, increasing the risk of coronary heart disease (damage to the arteries that supply blood and oxygen to the heart). Eating a healthy, balanced diet and staying active is enough to keep most people's cholesterol levels healthy, but it's important for diabetics to have their cholesterol levels checked every year.

**DYSLIPIDEMIA** 

Dyslipidemia is when there is an abnormal balance of lipids in the bloodstream. It normally refers to raised levels of lipids in the blood (hyperlipidemia). However, high insulin levels over a long period of time can also lead to an abnormal balance of lipids.

'GOOD AND 'BAD' CHOLESTEROL

Cholesterol is carried in the bloodstream by proteins. It combines with these proteins to form 'lipoproteins' and there are three main types:

LDL – low-density lipoproteins carry cholesterol from the liver to the cells via the bloodstream. If there is too much cholesterol it builds up in the arteries, hardening or narrowing them (atherosclerosis). s

HDL – high-density lipoproteins return the extra cholesterol that is not required by the body to the liver, where it is broken down and excreted, rather than allowing it to accumulate in the arteries.

TRIGLYCERIDES – some of these are needed for good health, but high levels raise the risk of heart disease. They are produced by the body's fat stores or by the liver but are also found in dairy products, meat and cooking oils

Ideally, we should aim to have low cholesterol, with:

Low triglyceride levels

Low LDL and

High HDL

HOW DOES CHOLESTEROL AFFECT HEALTH?

Too much cholesterol can build up in the coronary arteries, hardening or narrowing them (atherosclerosis) which causes coronary artery disease and conditions such as angina, where damage to

the arteries means there is insufficient blood and oxygen supply to the heart muscle (ischemia). This increases the risk of a heart attack.

High cholesterol levels also increase the risk of peripheral arterial disease (PAD) by causing narrowing of the arteries that supply blood to the legs.

#### MEASURING CHOLESTEROL

Cholesterol is measured in millimols per litre of blood or 'mmol/l'. The blood test can be used to assess the risk of coronary heart disease, using the ratio of total cholesterol to HDL cholesterol. The higher the ratio, the greater the health risks. 'Healthy' levels vary between adults depending on risk factors that include:

Age

Smoking

Being overweight

Low levels of exercise

Being of South Asian origin

High blood pressure

Diabetes

Family history of heart disease

Family history of a cholesterol-related condition

The more risk factors you have, the more important it is to reduce cholesterol levels to lower the risk of coronary heart disease. 'Healthy' cholesterol levels, recommended suggest that:

Total cholesterol should be less than 5.0mmol/l

LDL cholesterol should be less than 3.0mmol/l

## HOW CAN CHOLESTEROL BE LOWERED BY A HEALTHY DIET?

Having a healthy diet can lower blood cholesterol levels by 5-10% and this means sticking to a low-fat diet, and avoiding food containing saturated fat and trans fats. Opting for foods that are high in polyunsaturated fats (including omega-3) helps prevent blood clots and keeps the heart rhythm regular.

High fibre foods can also help to lower cholesterol levels by reducing the amount of LDL absorbed into the bloodstream from the intestine. These include: oats, lentils, pulses, nuts, beans, fruit and vegetables, garlic, soya, corn and selenium-enriched cereals.

STEROLS AND STANOLS

Sterols and stanols are naturally found in plants and are used in many branded products such as yoghurts and spreads that claim to lower cholesterol. Sterols and stanols can help to reduce cholesterol levels by up to 10-15% when 2g is eaten each day as part of a healthy balanced diet (check the label on branded foods for advice on how much to have). However, they should not take the place of a healthy

balanced diet or replace cholesterol-lowering medication prescribed by the doctor.

OTHER WAYS TO REDUCE YOUR CHOLESTEROL INCLUDE:

Stop smoking: a chemical found in cigarettes called acrolein stops HDL from transporting LDL to the

liver, leading to narrowing of the arteries (atherosclerosis)

Increase physical activity to increase HDL cholesterol levels, lower blood pressure, reach a healthy

weight and reduce the risk of diabetes.

NON-DIABETIC HYPOGLYCEMIA

NON-DIABETIC HYPOGLYCAEMIA (LOW BLOOD SUGAR)

This is when your blood sugar drops too low, even though you don't have diabetes. There are two types

of non-diabetic hypoglycaemia:

FASTING HYPOGLYCAEMIA: this can happen if someone goes without food for eight hours or longer. It

can also be caused by certain medicines, alcohol, exercise, other medical conditions such as liver

disease, hypothyroidism and tumours.

REACTIVE HYPOGLYCAEMIA: this can happen around two to four hours after a meal, preventing your muscles and brain cells from working properly. It can also be caused by too much insulin in the body,

meals that are high in carbohydrates (white bread, sugar, etc), pre-diabetes, as well as surgery to the

digestive system.

Signs of non-diabetic hypoglycaemia include:

Blurred vision or changes to vision

Feeling dizzy or lightheaded

Extreme tiredness (fatigue)

**Palpitations** 

**Excessive** sweating

Headaches

Nausea

Anxiety, irritability or confusion

SURGERY FOR DIABETES (METABOLIC SURGERY)

SURGERY FOR DIABETES (METABOLIC SURGERY)

Losing weight can help people to manage their Type 2 diabetes. Medical research has shown that having surgery for obesity can directly affect the way that the body uses insulin, in addition to helping someone lose their excess weight. Surgery can:

Influence how the hormones in the digestive system work, which affects the way your body makes insulin

Increase the quantity of bile acids made in the body, making cells more sensitive to insulin

Improve the way that our cells use insulin, helping to lower blood glucose levels

Types of Type 2 diabetes surgery (metabolic surgery) include:

Removal of part of the stomach to reduce its size, restricting the appetite and intake of food

A gastric by-pass

Minimally invasive surgery to the duodenum

All these interventions help to reduce the amount of food and drink you can have, because you don't need as much to feel full, but they also help your body to use insulin more effectively. While surgery isn't a permanent 'cure' for Type 2 diabetes, there is good medical evidence that it can mean you will be able to stop taking medication and enable your diabetes to go into remission.

A member of our metabolic team will be able to discuss your options for surgery with you and advise you on the best type of surgery for your condition. Our metabolic surgery and medicine team can use minimally invasive laparoscopic (keyhole) interventions and endoscopic procedures instead of surgery in some cases.

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**GONADAL DISORDERS TREATMENTS FOR ADULTS** 

**GONADAL DISORDERS TREATMENTS FOR ADULTS** 

The Endocrinologists at our medical centres treat a wide range of gonadal disorders in adults, including:

Polycystic ovary syndrome (PCOS)

Androgen excess and deficiency

Oestrogen excess and deficiency

Fertility problems

The pituitary gland is responsible for luteinizing hormone (LH) and follicle stimulating hormone (FSH). These hormones are responsible for controlling the production of the sex hormones oestrogen and testosterone, as well as the maturing of sperm and eggs, and egg release. Gonadal disorders are caused when the production of sex hormones is abnormal.

Your doctor will be able to advise you about your treatment options for your condition.

HYPOGONADISM: this is when the sex glands (gonads) – testes in men and ovaries in women – produce little or no sex hormones. These sex hormones control development of the breasts and testes, growth of pubic hair, and are involved in menstruation and sperm production. It is usually treated with injections of sex hormones. There are two main types of hypogonadism:

PRIMARY HYPOGONADISM: means there is a problem with your glands, so even though the pituitary gland and hypothalamus are functioning, the gonads aren't able to produce enough sex hormones

CENTRAL HYPOGONADISM (secondary hypogonadism) is when the pituitary gland and hypothalamus, which control the gonads, aren't functioning correctly so they aren't sending a message to the gonads to produce any sex hormones.

If you would like to know more about the gonadal disorder treatments we can offer, please get in touch. Our endocrinologists have extensive experience and expertise in treating adults with gonadal disorders. We'll work with work with you to diagnose the issue and ensure you receive the best possible care. To find out more, contact us and arrange an appointment at our medical centres.

#### **GROWTH AND DEVELOPMENT DISORDERS**

## **GROWTH AND DEVELOPMENT DISORDERS**

Growth hormone (GH) regulates body and brain development, bone growth and maturity, and metabolism. It's also essential for healthy muscles. If the pituitary gland doesn't produce enough growth hormone (GH), this can affect growth and development in children as well as causing a number of health problems in adults including: decreased muscle mass, increased body fat, high cholesterol, osteoporosis (brittle bones), psychological problems and poor quality of life.

Our Endocrinologists can diagnose a wide range of growth disorders and offer expert growth disorder treatments including:

GROWTH HORMONE DEFICIENCY is when the pituitary gland doesn't produce enough growth hormone, slowing down or stopping a child's growth from the age of two or three years onwards. It's often diagnosed during routine health checks, and can also be a symptom of genetic disease including Turner syndrome and Prader-Willi syndrome. It can be treated by regular injections of growth hormone

GIGANTISM is a rare, serious condition, often caused by a benign tumour in the pituitary gland, which causes excessive growth hormone to be released in children, causing faster growth and increased height. It's usually treated as early as possible with surgery to remove or reduce the size of the tumour, along with radiation therapy and, in some cases, medication

HYPOGONADISM, where there is too little sex hormone produced by the body, can affect the testes in males and the ovaries in females, leading to delayed puberty

CONGENITAL ADRENAL HYPERPLASIA (CAH), a group of inherited disorders caused by lower levels of ACTH being released by the pituitary gland than normal. This causes the adrenal gland to produce insufficient levels of a hormone called cortisol, leading to an increase in the level of male hormones in both sexes, affecting the reproductive system

If you would like to know more about the growth and hormone treatments we provide please contact us and make an appointment with one of our endocrinologists to discuss the best first steps.

## PITUITARY DISORDERS

## PITUITARY DISORDERS

The pituitary gland is a small gland found in the base of the skull. This gland is regulated by part of the brain known as the hypothalamus, to which it is connected via a tiny vein called the 'pituitary stalk'. The pituitary gland controls the release of the body's hormones, which affect many functions including growth, development, sexuality and reproduction as well as metabolism, how we react to stress, and our overall quality of life. It's sometimes described as the 'master gland' because it affects the brain, mind and body.

Pituitary disorders occur when the pituitary gland either produces too much or too little of a hormone. When there is little or no hormone production by the pituitary gland, this is known as 'hypopituitarism' or pituitary failure. Too little hormone can cause a wide range of symptoms. The doctors at our medical centres have extensive experience dealing with a range of pituitary gland related conditions and can offer pituitary disorder treatments.

The pituitary gland produces the following hormones:

GROWTH HORMONE (GH): this helps a child to grow and develop normally and is responsible for many essential functions in adults including a normal metabolism and healthy muscles.

LUTEINIZING HORMONE (LH) AND FOLLICLE STIMULATING HORMONE (FSH): these hormones control the body's production of sex hormones (oestrogen and testosterone) and fertility (sperm and egg development and release).

PROLACTIN (PRL): this is essential for breast changes during pregnancy and the production of breast milk.

THYROID STIMULATING HORMONE (TSH): this enables the thyroid to release hormones that are essential for the body's metabolism, as well as for growth and development.

ADRENOCORTICOTROPHIC HORMONE (ACTH): this stimulates the adrenal glands to release cortisol, essential for many functions including regulating carbohydrate, fat and protein and the stress response.

VASOPRESSIN: this is sometimes known as 'anti-diuretic hormone' (ADH) and is essential to keep the balance of water and electrolytes in the body.

If you would like to know more about the pituitary disorder treatments and services that we provide, whether you suffer from Hyperprolactinaemia, Cushing's Syndrome or Thyrotrophinoma, please contact us. Our consultants have extensive experience and expertise in treating pituitary disorders. We'll work with work with you to ensure you receive the best possible care.

## CRANIOPHARYNGIOMA

Craniopharyngioma is a type of tumour that forms in the brain, near the pituitary gland, and which is formed from embryonic pituitary gland tissue. It most commonly affects children but can sometimes also affect men and women in their 50s and 60s. As it develops, the tumour can press on the optic nerve, leading to problems with vision.

#### FUNCTIONING AND NON-FUNCTIONING PITUITARY TUMOURS

A pituitary tumour is an abnormal growth in the pituitary gland. These tumours can be 'non-functioning' or 'functioning'.

Non-functioning pituitary tumours: although these do not lead to excessive hormone production, as they enlarge they can put pressure on the pituitary gland, causing reduced or absent hormonal production (hypopituitarism or pituitary failure). They can also cause headaches and affect eyesight as they press on the optic nerve.

Functioning pituitary tumours: these can result in the over-production of hormones, leading to serious endocrine disorders such as:

Acromegaly (caused by too much growth hormone)

Prolactinoma (caused by too much prolactin)

Cushing's syndrome (caused by too much ACTH hormone)

Thyrotrophinoma (caused by too much thyroid stimulating hormone)

#### **HYPERPROLACTINAEMIA**

Hyperprolactinaemia is when the pituitary gland produces more prolactin than usual. This is normal during pregnancy and breastfeeding but, at other times, high levels of prolactin can cause infertility, low libido and bone loss in men and women.

## **HYPOPITUITARISM**

Hypopituitarism, a rare disorder, is when your pituitary gland doesn't produce enough of one or more hormones. It's caused by damage to the gland or the area around it, including from a pituitary tumour. The greater the damage, the greater the decrease in function, with the first to be affected normally being growth hormone, followed by the gonadotrophins (which affect sexual and reproductive function) followed by the hormones that control the thyroid and adrenal function.

THYROID CANCER TREATMENT

THYROID CANCER TREATMENT

At QUICKCARE, we can diagnose and treat a variety of thyroid cancers with the help of our highly skilled clinicians. Our multidisciplinary team of Endocrinologists, and ENT Surgeons are highly trained with decades of experience.

For more details on Thyroid cancers, including signs and symptoms, causes, diagnostic techniques, and treatment options, please visit the links below.

Anaplastic thyroid cancer

Follicular thyroid cancer

Medullary thyroid cancer

Papillary thyroid cancer

QUICKCARE state-of-the-art imaging department has the latest scanning technology. Our skilled imaging technicians are experts in the diagnosis of Thyroid complications.

ANAPLASTIC THYROID CANCER REVIEW

#### WHAT IS ANAPLASTIC THYROID CANCER?

Anaplastic thyroid cancer (ATC) is the most rare and lethal form of cancer that affects the thyroid gland, which is a small gland located in the front part of your neck, that creates some crucial hormones: triiodothyronine (T3) and thyroxine (T4); which are responsible for maintaining the body metabolism regulation. This type of cancer usually affects older people and can grow alarmingly fast and spread very rapidly through the lymph node, causing early metastases most of the time.

## ANAPLASTIC THYROID CANCER SIGNS AND SYMPTOMS

Unlike almost all other thyroid cancers, ATC usually have symptoms, which are present due to its incredibly rapid grow rate and local invasion. Some of the symptoms presented include:

A lump sensation in the front part of your neck.

Difficulty to swallow.

Hoarseness and voice changes.

Swollen lymph nodes around the thyroid.

Frequently, people can also present some symptoms related to distant metastases in the lungs, bones, and liver.

## FOLLICULAR THYROID CANCER REVIEW

#### WHAT IS FOLLICULAR THYROID CANCER?

Follicular thyroid cancer (FTC) is the second most common type of cancer that affects the thyroid, a small gland located in the front part of your neck, that creates some crucial hormones: triiodothyronine (T3) and thyroxine (T4); which are responsible for maintaining the body metabolism regulation. Usually, this type of cancer has a good prognosis. However, since its vascular invasion potential, spreading to other organs is possible, making it more aggressive than papillary thyroid carcinoma.

#### FOLLICULAR THYROID CANCER SIGNS AND SYMPTOMS

FTC doesn't cause any signs or symptoms in the early stages of the disease. Signs and symptoms appear as part of the progressive growth of the nodule in the thyroid, including:

A lump sensation in the front part of your neck.

Difficulty to swallow or breath.

Mild pain in your neck.

Hoarseness and voice changes.

Swollen lymph nodes around the thyroid.

## FOLLICULAR THYROID CANCER CAUSES

As well as papillary thyroid cancer, FTC also arises from the follicular cells of the thyroid, which are responsible for the production and storage of the thyroid hormones. This type of cancer occurs after an abnormal mutation in the follicular cells that will growth and accumulate, forming a tumor.

There is a subtype of FTC, the HURTHLE CELL CANCER, which is very rare and more aggressive than follicular.

There are some risk factors associated with FTC, including:

Female gender.

Age around 50 and older.

Thyroid cancer family history.

## FOLLICULAR THYROID CANCER DIAGNOSIS

Most of the times, the suspicion of FTC starts as an accidental discovery during a routine physical exam of your neck. Your doctor will notice a lump or a nodule in your thyroid and will run some additional tests to confirm its nature. Those tests include:

BLOOD TEST. In order to detect your thyroid gland functionality.

THYROID ULTRASONOGRAPHY. This technique provides good quality information about the shape of the nodule and helps doctors determining its malignant characteristics.

FINE-NEEDLE ASPIRATION (FNA) BIOPSY. During the procedure, your doctor will insert a very fine needle into the suspicious nodule and will remove a sample of cells for microscopic analysis to look after cancer cells.

#### FOLLICULAR THYROID CANCER TREATMENT

FTC has a high rate of cure after a proper treatment -near 95% in young people. However, this rate decreases with advanced age. The treatment involves the following options:

## **SURGERY**

Your doctor will suggest the removal of the thyroid -thyroidectomy-, could be unilateral (hemi thyroidectomy) or bilateral (total thyroidectomy) in order to remove the malignant nodule and eliminate any possibility for additional cancerous nodule formation. Also, your doctor will remove any lymph node around your neck that looks suspicious.

#### RADIOACTIVE IODINE ABLATION

As a way to make sure to completely destroy any remaining microscopic areas of thyroid cancer that weren't removed during surgery, your doctor will suggest taking a radioactive iodine dose. Usually, this is a one-time treatment where you take a pill containing radioactive iodine that causes the thyroid cells to shrink and eventually destroyed them.

#### THYROID HORMONE SUPPLEMENTATION THERAPY

In order to provide your body with the important thyroid hormones that you won't any longer produce after total thyroidectomy, you will need to take a daily and life-long supplementary thyroid hormone treatment, a medication called LEVOTHYROXINE.

## LONG-TERM FOLLOW UP

After surviving FTC, all patients are followed lifelong for their disease and to monitor thyroglobulin levels, which is a thyroid hormone that indicates the presence of thyroid tissue. If any level of thyroglobulin is detected in the future, it might mean that cancer is back.

## MEDULLARY THYROID CANCER REVIEW

## WHAT IS MEDULLARY THYROID CANCER?

Medullary thyroid cancer (MTC) is the third most common type of cancer that affects the thyroid, a small gland located in the front part of your neck, that creates some crucial hormones: triiodothyronine (T3) and thyroxine (T4); which are responsible for maintaining the body metabolism regulation. MTC can

spread to other organs through the lymph nodes in the early stages of the disease, which makes it more aggressive than papillary and follicular thyroid cancer.

#### MEDULLARY THYROID CANCER SIGNS AND SYMPTOMS

MTC doesn't cause any sign or symptom in the early stages of the disease. Basically, because its middle location. However, when the nodule is big enough, there might be some symptoms associated:

A lump sensation in the front part of your neck.

Difficulty to swallow or breath.

Mild pain in your neck.

Hoarseness and voice changes.

Swollen lymph nodes around the thyroid.

Additionally, MTC produces many substances, including calcitonin, prostaglandins, serotonin, among others. Usually, people with advanced MTC suffer from diarrhea, which is caused by the abnormally high additional substances.

## MEDULLARY THYROID CANCER CAUSES

MTC develops in the middle part of the gland, a portion called "medulla", which contains a special type of cells called parafollicular C cells, responsible for the production of some hormones. MTC occurs after some genetic alterations -mutations- in these cells.

MTC can develop either as a sporadic disease or as an inherited disorder, associated with others endocrine neoplasia, a condition known as multiple endocrine neoplasias (MEN). There are some differentiating characteristics for each group:

SPORADIC MEDULLARY THYROID CANCER

Is the most common type.

Affects more women than men and people around 40-50 years old.

Prognosis gets worse over 55 years.

HEREDITARY MEDULLARY THYROID CANCER

Affects equally women and men.

Is associated with MEN condition.

Strongly related with medullary thyroid cancer family history and RET gene mutation.

MEDULLARY THYROID CANCER DIAGNOSIS

Unfortunately, most people affected by MTC receive a diagnosis in advanced stages of the disease, due to the absence of symptoms and the internal slow growth of the nodule. However, in case you or your

doctor detect a lump in your neck, some additional tests to confirm its nature will be done, including:

THYROID ULTRASONOGRAPHY. This technique provides good quality information about the shape of the

nodule and helps doctors determining its malignant characteristics.

FINE-NEEDLE ASPIRATION (FNA) BIOPSY. During the procedure, your doctor will insert a very fine needle into the suspicious nodule and will remove a sample of cells for microscopic analysis to look after cancer

cells.

BLOOD TEST. In order to detect the levels of some hormones like calcitonin.

MEDULLARY THYROID CANCER TREATMENT

Similar to papillary and follicular thyroid cancer, MTC treatment also involves surgery. However, since

this type of cancer frequently spread to the lymph nodes of the neck, curation rates are lower.

**SURGERY** 

Your doctor will suggest the removal of the thyroid -thyroidectomy-, could be unilateral (hemi thyroidectomy) or bilateral (total thyroidectomy) in order to remove the malignant nodule and eliminate any possibility for additional cancerous nodule formation. Also, your doctor will remove any lymph node

around your neck that looks suspicious

In case you have a high risk for developing MTC, like a detected RET gene mutation, your doctor will

suggest a prophylactic thyroidectomy to prevent cancer in the future.

THYROID HORMONE SUPPLEMENTATION THERAPY

As a way to provide your body with the important thyroid hormones that you won't any longer produce after total thyroidectomy, you will need to take a daily and life-long supplementary thyroid hormone

treatment, a medication called LEVOTHYROXINE.

OTHER OPTIONS

Contrary to papillary and follicular thyroid cancer, medullary thyroid cancer doesn't respond to RADIOACTIVE IODINE ARIATION or THYROID SUPPRESSIVE THERAPY. However, RADIATION

to RADIOACTIVE IODINE ABLATION or THYROID SUPPRESSIVE THERAPY. However, RADIATION

THERAPY and CHEMOTHERAPY can be helpful after surgery.

LONG-TERM FOLLOW UP

After treatment, your doctor will monitor the levels of a tumor marker called carcinoembryonic antigen (CEA) and the hormones produced by C cells to keep track of how well the treatment is working or if cancer has come back.

PAPILLARY THYROID CANCER REVIEW

WHAT IS PAPILLARY THYROID CANCER?

Papillary thyroid cancer (PTC) is the most common type of cancer that affects the thyroid gland, which is a small gland located in the front part of your neck, that creates some crucial hormones: triiodothyronine (T3) and thyroxine (T4); which are responsible for maintaining the body metabolism regulation. This type of cancer starts as a slow-growing thyroid nodule and most of the time, the prognosis is excellent.

PAPILLARY THYROID CANCER SIGNS AND SYMPTOMS

PTC cancer doesn't cause any signs or symptoms in the early stages of the disease. Over time, and as part of the progressive growth of the gland, the following symptoms can be associated:

A lump sensation in the front part of your neck.

Difficulty to swallow.

Mild pain in your neck.

Hoarseness and voice changes.

Swollen lymph nodes around the thyroid.

PAPILLARY THYROID CANCER CAUSES

PTC arises from follicular cells, which are a specific type of cell in the thyroid that produces and stores the thyroid hormones. Even though the main cause of papillary thyroid cancer is not clear, is well-known that PTC occurs after an abnormal mutation and growth of the follicular cells.

There are some risk factors associated with PTC, including:

Female gender.

Age between 30-50.

Thyroid cancer family history.

Head and neck radiation exposure.

PAPILLARY THYROID CANCER DIAGNOSIS

Usually, the first approach for the diagnosis of PTC starts as an accidental discovery during a routine physical exam of your neck. Your doctor will notice a lump or a nodule in your thyroid and will run some additional tests to confirm its nature. Those tests include:

BLOOD TEST. In order to detect your thyroid gland function.

THYROID ULTRASONOGRAPHY. This technique provides quality information about the shape of the nodule and helps doctors determining its malignant characteristics.

FINE-NEEDLE ASPIRATION (FNA) BIOPSY. During the procedure, your doctor will insert a very thin needle into the suspicious nodule and will remove a sample of cells for microscopic analysis to look after cancer cells.

PAPILLARY THYROID CANCER TREATMENT

Fortunately, PTC is a type of cancer that has an excellent response to treatment, with high curation rates. The treatment involves the following consideration:

**SURGERY** 

Your doctor will suggest the removal of the thyroid -thyroidectomy-, could be unilateral (hemi thyroidectomy) or bilateral (total thyroidectomy) in order to remove the malignant nodule and eliminate any possibility for additional cancerous nodule formation. Also, your doctor will remove any lymph node around your neck that looks suspicious.

RADIOACTIVE IODINE ABLATION

This option is used in most cases after thyroidectomy to make sure to destroy any remaining healthy thyroid tissue, as well as microscopic areas of thyroid cancer that weren't removed during surgery. This is typically a one-time treatment where you take a pill with radioactive iodine that causes the thyroid cells to shrink and eventually destroyed them.

THYROID HORMONE SUPPLEMENTATION THERAPY

As a way to provide your body with the important thyroid hormones that you won't any longer produce after total thyroidectomy, you will need to take a daily and life-long supplementary thyroid hormone treatment, a medication called LEVOTHYROXINE.

LONG-TERM FOLLOW UP

All PTC patients are followed lifelong for their disease and to monitor thyroglobulin levels, which is a thyroid hormone that indicates the presence of thyroid tissue. If any level of thyroglobulin is detected in the future, it might mean that cancer is back.

THYROID DISORDER TREATMENTS

THYROID DISORDER TREATMENTS

Our endocrinologists can diagnose and treat a wide range of thyroid disorders.

The thyroid gland, which is at the front of the neck below the Adam's apple, is essential for producing hormones that regulate the body's metabolism (including heart rate and body temperature) and growth.

Thyroid problems happen when the gland produces too much or too little of the hormones. In some cases, thyroid disorders are caused by problems with the pituitary gland and hypothalamus which control the thyroid gland.

In some cases, thyroid conditions can cause the thyroid gland to become enlarged (goitre) which can cause symptoms relating to swallowing or discomfort in the neck.

Causes of thyroid problems include:

Graves' disease – an autoimmune condition that causes over-active thyroid

Toxic adenomas (nodules that develop in the thyroid and produce hormones) which can be contained in goitres

Subacute thyroiditis – where the thyroid becomes inflamed and 'leaks' additional hormones; this causes temporarily high levels of hormones and can last up to a few months

Pituitary gland problems or cancerous tumours in the thyroid gland

UNDERACTIVE THYROID (HYPOTHYROIDISM)

Hypothyroidism, or an underactive thyroid, means that not enough thyroid hormones are being produced; this causes the metabolism to slow down, which can lead to symptoms including lower energy levels, weight gain and depression. Both men and women can be affected, although it's more common in women and around 1 in 3,500-4,000 babies are born with the condition (congenital hypothyroidism).

Causes include:

Hashimoto's disease – an autoimmune disorder

Damage to or removal of the thyroid gland (for example, during cancer treatment)

Over-exposure to iodine from medications

Lithium – a medication that has been linked to hypothyroidism

Your doctor will be able to advise you about the best treatment, which usually involves taking hormone replacement medication.

OVERACTIVE THYROID (HYPERTHYROIDISM)

Hyperthyroidism, or an overactive thyroid, means that too many thyroid hormones are being produced, and it can lead to symptoms including feeling anxious, nervous or irritable; mood swings; palpitations; swelling in the neck; and losing weight unexpectedly. It's around 10 times more common in women than men and, in many cases, starts between the ages of 20-30.

Causes include:

Graves' disease (an autoimmune disease)

Lumps (nodules) on the thyroid, leading to over-production of hormones

Certain Medications, some of which are used for irregular heartbeat

Your doctor will be able to advise you about the best treatment, which usually involves taking hormone replacement medication.

THYROID CANCER

Thyroid cancer is rare, affecting mainly people in their 30s and over the age of 60. It's more common in women than men and symptoms can include a lump or swelling in the front of the neck, swollen neck glands, difficulty with swallowing, and a long term sore throat.

There are four types of thyroid cancer including:

The most common type, papillary carcinoma, which mainly affects people aged under 40

Follicular carcinoma (affects around 10% of patients, mainly in middle-age)

Medullary thyroid carcinoma (rare, affecting less than 1 in 10 patients)

The most rare, anaplastic thyroid carcinoma, is the most serious type and usually affects patients aged over 60

Our endocrinologists use a range of tests to diagnose your cancer and discuss your best treatment options.

THYROID NODULES AND SWELLINGS (GOITRES)

Thyroid nodules are lumps in the thyroid gland. Usually harmless, they are more common in women and often develop during pregnancy and around the menopause.

An enlarged thyroid gland that causes a lump on the front of the neck is called a 'goitre'; the lump moves up and down when you swallow. Most goitres are small and don't cause symptoms. However, in some cases it may cause coughing, a tight feeling in the throat, difficulty swallowing (dysphagia), changes in the voice and even difficulty breathing. Treatment depends on the size of the goitre and your symptoms.

If you would like to know more about the thyroid treatments we offer to help with thyroid conditions please get in touch with one of our clinics. Our doctors have extensive experience treating thyroid conditions, including hypothyroidism, an underactive or overactive thyroid, and thyroid cancers. You'll be able to discuss your treatment options with one of our team of endocrinologists.

**GOITER TREATMENT** 

## WHAT IS A GOITER?

A goiter is the enlargement of your thyroid, which is a small and very important gland located in the front part of your neck, responsible for the creation of some crucial hormones: triiodothyronine (T3) and thyroxine (T4); which are responsible for maintaining the body metabolism regulation. Goiter usually affects women and is related to a variety of thyroid diseases.

## **GOITER SIGNS AND SYMPTOMS**

Usually, goiters don't show any additional symptom besides the visible swelling of the front part of your neck, due to the enlarged thyroid. However, when they do cause symptoms, those might include:

Hoarseness

Coughing

Finding difficult to swallow.

In severe cases, breathing difficulty.

**GOITER CAUSES** 

A goiter is not always the expression of a pathology. Sometimes, despite the enlargement, the thyroid can produce enough hormones to keep your body functional. However, some other times, it's related to some pathological causes, including:

IODINE DEFICIENCY. Iodine is necessary for the production of thyroid hormones. Goiter occurs after an iodine poor diet, and the compensatory effort of the gland to obtain more iodine. This is the most common cause of goiter around the world, but the incidence has been reduced since the introduction of iodine to table salt.

GRAVES' DISEASE. Due to the constant antibodies' stimulus over the thyroid.

HASHIMOTO'S DISEASE. Even though Hashimoto's disease causes a low thyroid hormone production (hypothyroidism), a goiter can be also seen. Because of the constant stimulus of the TSH (thyroid-stimulating hormone), the hormone produced in your brain that stimulated the thyroid gland, as an effort to increase the hormone production.

MULTINODULAR GOITER. Here, the appearance of multiple nodules in the thyroid can increase its size.

THYROIDITIS. This is the inflammation of the gland due to some viral, bacterial or immune cause.

**PREGNANCY** 

THYROID CANCER

**GOITER DIAGNOSIS** 

Sometimes, a goiter can be diagnosed just by practicing a simple neck palpation exam. In that case, your doctor will request some additional tests to determine the underlying cause of your condition, including:

BLOOD TEST. In order to detect your thyroid hormones levels.

ANTIBODIES ANALYSIS. In case your goiter is related to some autoimmune cause (Graves or Hashimoto's disease).

THYROID ULTRASOUND. The image reveals the real size of your thyroid and the presence of nodules.

THYROID BIOPSY. To check for cancer.

**GOITER TREATMENT** 

Your endocrinologist who is trained for many years in this particular field has a vast experience of managing such conditions.

Goiter treatment depends on many variables, like the size of your goiter, its underlying cause, the severity of the symptoms and your health condition. In some cases, goiters don't need any treatment. However, in case your goiter is causing troubles, your doctor will suggest the following options:

## **MEDICATIONS**

Depending on the results of your blood tests and the situation of your thyroid hormones, your doctor may prescribe you some hormone replacement or anti-thyroid drugs depending on whether you are suffering from hyperthyroidism or hypothyroidism.

#### **SURGERY**

If you have thyroid cancer or multinodular goiter, show signs of difficulty to breath or swelling, surgery will be a valid option for you. The surgery involves the total or partial removal of the gland and thyroid hormone supplementation after surgery.

## **GRAVES DISEASE**

#### WHAT IS GRAVES' DISEASE?

Graves' disease is the disorder most commonly related to hyperthyroidism – an overproduction of thyroid hormones- and is the result of an uncontrolled autoimmune response that attacks the thyroid. Graves' disease usually affects young women and might cause severe consequences in your body metabolism.

## GRAVES' DISEASE SIGNS AND SYMPTOMS

Since the clinical expression of Grave's disease is hyperthyroidism, you might present the typical symptoms related to this condition, including:

Unintentional and unexplained weight loss

Increased heart rate

Anxiety and irritability

Fine tremor in the hands

Irregular menstrual cycles

Easily sweating

Muscle fatigue

An enlarged thyroid (Goiter)

Insomnia

Exophthalmos, a specific eyes condition -also known as "Grave's Ophthalmopathy"- in which the eyes protrude outside the orbits, giving you a "surprised" look

Thickness and redness of the feet and legs, a particular condition known as "Graves' dermopathy"

#### **GRAVES' DISEASE CAUSES**

The main cause of Graves' disease remains unknown. However, experts have established that after some stimulus -that are not yet well understood- the immune system creates specific antibodies to some of the thyroid cells, which abnormally stimulates them and increase the production of thyroid hormones and its overexpression in the bloodstream (hyperthyroidism).

There are some risk factors related to Graves' disease:

Female gender

Age under 40

Graves' disease family history

Another autoimmune disorder personal history

**Smoking** 

## **GRAVES' DISEASE DIAGNOSIS**

The diagnosis of Graves' disease is based on your symptoms and some other tests that will confirm the clinical suspicion. Those include:

BLOOD TEST. Your blood levels of TSH (thyroid-stimulating hormone), which is the hormone produced in your brain that stimulated the thyroid, and thyroid hormones (triiodothyronine or T3 and thyroxine or T4), will be determined. If your levels of TSH are unusually low and T4 or T3 levels are too high, you might have Graves' disease.

THYROID ULTRASOUND. In order to check the thyroid enlargement.

RADIOIODINE UPTAKE TEST and confirm the thyroid radioactive iodine collection.

## **GRAVES' DISEASE TREATMENT**

Your endocrinologist who is trained for many years in this particular field has a lost experience of managing such conditions. There are multiple options to treat Graves' disease and they are centred on inhibiting the excess production of thyroid hormones and its effects on your body. Selecting the right treatment for you depends on your age, medical condition and the severity of your symptoms. Some of the options include:

**MEDICATIONS** 

ANTI-THYROID DRUGS. These drugs block the excessive thyroid hormone production.

BETA-BLOCKERS. Usually, these drugs are used to treat high blood pressure, but they can also ease the symptoms of hyperthyroidism, like tremor, rapid heart rate, and anxiety.

RADIOACTIVE IODINE. This treatment option causes your thyroid gland to shrink, because of its radioactive effects, which gradually decrease the hormone levels.

**SURGERY** 

In case the above treatments are not working or if you can't tolerate them, your endocrinologist will suggest a THYROIDECTOMY, a procedure that involves the total or partial removal of your thyroid. This will solve hyperthyroidism but will cause the opposite state, hypothyroidism, due to the absences of the thyroid. This is why total thyroidectomy involves a lifelong supplementary treatment with a synthetic thyroid hormone.

HASHIMOTO'S DISEASE

WHAT IS HASHIMOTO'S DISEASE?

Hashimoto's disease, also known as chronic lymphocytic thyroiditis, is a common disorder caused by an uncontrolled reaction of your immune system that attacks your thyroid, a small gland located in your neck; responsible for the production of some crucial hormones: triiodothyronine (T3) and thyroxine (T4). Hashimoto's disease leads to the thyroid tissue destruction and decreased thyroid hormones production; a condition known as hypothyroidism. It usually affects young women and might cause severe consequences in your body metabolism.

HASHIMOTO'S DISEASE SIGNS AND SYMPTOMS

Clinical progression of Hashimoto's disease tends to be slow. Usually, signs and symptoms gradually develop over time and they might be very unspecific at the beginning. You will experience, mainly the symptoms related to hypothyroidism, including:

Muscle fatigue	itigue	fat	le	usc	M	١
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Dry skin

Constipation

Weight gain

Extreme sensitivity to cold

Depression

Extreme tiredness

Puffy face

A progressive swelling of the thyroid (Goiter)

HASHIMOTO'S DISEASE CAUSES

Hashimoto's disease is caused by a malfunction of the immune system, which after some stimulus-apparently some viral or bacterial infection of the thyroid- creates antibodies that specifically attacks and destroys some cells of the gland, decreasing the production of thyroid hormones and causing the typical symptoms of hypothyroidism.

The main cause of Hashimoto's disease remains controversial. However, experts have established some risk factors related to this condition, including:

Female gender.

Age under 40.

Hashimoto's disease family history.

Another autoimmune disorder personal history.

Radiation exposure.

HASHIMOTO'S DISEASE DIAGNOSIS

Since Hashimoto's disease is one of the most common causes of hypothyroidism, if you show the typical symptoms, your doctor will perform some lab tests to confirm the diagnosis, including:

BLOOD TEST: Your blood levels of thyroid hormones (T3 and T4) and levels of TSH (thyroid-stimulating hormone), a hormone produced in your brain that simulated the thyroid gland, will be tested. If you show low levels of T3 or T4 and high levels of TSH, means that your thyroid gland is underactive and your brain is trying to stimulate its hormone production.

ANTIBODY TEST. Since Hashimoto's disease is an autoimmune disorder, the antibodies created can be measured in your bloodstream. The presence of high levels of antibodies against thyroid peroxidase (TPO antibodies), an enzyme normally found in the thyroid gland, will confirm the diagnosis.

There are some other autoimmune disorders such as primary ovarian failure, type 1 diabetes, adrenal insufficiency/Addison's, pernicious anemia, which are at times associated with the same condition and your endocrinologist will consider that investigate further if required.

HASHIMOTO'S DISEASE TREATMENT

The treatment of Hashimoto's disease involves the supplementation of the hormone deficiency using a synthetic thyroid hormone which is identical to T4 and restores hormone levels and will reverse hypothyroidism symptoms.

Your endocrinologist who is trained for many years in this particular field has a lost experience of managing such conditions.

There are some important facts for you to know about synthetic thyroid hormones.

During treatment, your endocrinologist will increase or decrease your dose, depending on your blood hormone levels.

In order to ensure proper absorption, you might need to take it with an empty stomach, ideally during the morning and wait at least one hour before eating or drinking.

If you start feeling better, don't quite your medication. The symptoms might come back.

#### HYPERTHYROIDISM TREATMENT

#### WHAT IS HYPERTHYROIDISM?

The thyroid is a small gland located in the lower part of your neck, responsible for the creation of some important hormones: triiodothyronine (T3) and thyroxine (T4), which influence on virtually every cell in your body. Hyperthyroidism occurs when the thyroid gland produces too much thyroid hormones, which considerably accelerates your body metabolism and might cause serious consequences to your health.

## HYPERTHYROIDISM SIGNS AND SYMPTOMS

Signs and symptoms related to hyperthyroidism are very unspecific. Usually, a wide-open list of other health problems can share these symptoms. Also, the symptoms can vary depending on every person and will be determined by the increased hormone levels.

Some of the signs and symptoms include:

Unintentional and unexplained weight loss.

Increased heart rate. Palpitations.

Anxiety and irritability. Restless.

Fine tremor in the hands.

Irregular menstrual cycles.

Easily sweating.

Muscle fatigue.

Goiter, which is the enlargement of the thyroid.

Insomnia.

Bulging eyes, also known as Grave's Ophthalmopathy.

## HYPERTHYROIDISM CAUSES

Hyperthyroidism occurs when an underlying condition affects the thyroid and increase the production of thyroid hormones. There are multiple causes related to this condition and some of them include:

GRAVES' DISEASE. This is the most common cause related to hyperthyroidism and involves the production of some antibodies that stimulates the thyroid to produce abnormally high amounts of thyroid hormones.

HYPERFUNCTIONING THYROID NODULES. In which some benign tumors (nodules) are formed into the thyroid gland and produces additional thyroid hormones.

Here, some external factors make your thyroid gland become inflamed, causing the uncontrolled release of the thyroid hormones that are normally stored in the gland tissue.

#### HYPERTHYROIDISM DIAGNOSIS

The diagnosis of hyperthyroidism is based on your symptoms and some lab tests. Your endocrinologist will perform a proper physical exam and a blood test that measures the levels of TSH (thyroid-stimulating hormone) the hormone produced in your brain that stimulated the thyroid gland, and the thyroid hormones (T3 and T4). A high level of T4 or T3 and a low level of TSH indicate an underactive thyroid.

Additionally, in order to determine the underlying cause of your condition, your endocrinologist may perform the following tests:

Thyroid ultrasound.

Thyroid Scan.

Radioiodine uptake test.

## HYPERTHYROIDISM TREATMENT

There are multiple options to treat hyperthyroidism and most of the time, the treatment is successful. Selecting the best treatment for you depends on your age, medical condition, the severity of your symptoms and the underlying cause of your condition. Some of the options include:

**MEDICATIONS** 

ANTI-THYROID DRUGS. These drugs block the excessive thyroid hormone production.

BETA-BLOCKERS. Usually, these drugs are used to treat high blood pressure, but they can also ease the symptoms of hyperthyroidism, like tremor, rapid heart rate, and anxiety.

RADIOACTIVE IODINE. This treatment option causes your thyroid gland to shrink, because of its radioactive effects, which gradually decrease the hormone levels.

**SURGERY** 

In case the above treatments are not working or if you can't tolerate them, your endocrinologist may suggest a THYROIDECTOMY, a procedure that involves the total or partial removal of your thyroid. This will solve hyperthyroidism but will cause the opposite state, hypothyroidism, due to the absences of the thyroid. This is why total thyroidectomy involves a lifelong supplementary treatment.

HYPOTHYROIDISM TREATMENT

WHAT IS HYPOTHYROIDISM?

The thyroid is a very important gland located in the front part of your neck, responsible for the production of some crucial hormones: triiodothyronine (T3) and thyroxine (T4), which influence on virtually every cell in your body. Hypothyroidism occurs when something interferes with the normal function of the thyroid gland, causing a decreased hormone production and severe consequences in your body metabolism.

HYPOTHYROIDISM SIGNS AND SYMPTOMS

Signs and symptoms related to hypothyroidism can vary widely depending on every person and also on the severity of the hormone deficiency. Usually, symptoms tend to develop gradually over time and they might be very unspecific at the beginning.

Some of	f the signs	and	symptoms	inclu	de:

Dry skin.

Constipation.

Muscle fatigue.

Weight gain.

Extreme sensitivity to cold.
Depression
Extreme tiredness.
Puffy face.
Progressive swelling of the thyroid (Goiter).
HYPOTHYROIDISM CAUSES
Hypothyroidism occurs when the thyroid gland is not able to produce the required amount of hormones that ensure a normal metabolism function. There are multiple causes related to this condition and some of them include:
AUTOIMMUNE DISEASE. The most common example is a disorder known as HASHIMOTO'S DISEASE, which is an autoimmune disorder that destroys the thyroid tissue.
Thyroid gland surgical removal.
Secondary effects of radiation therapy.
Using too much medication to treat the opposite disorder, hyperthyroidism (producing too much thyroid hormones).
HYPOTHYROIDISM DIAGNOSIS
The diagnosis of hypothyroidism is based on your symptoms and some lab tests. You may have an endocrinologist, a doctor who specializes in the endocrine system, oversee your care. An endocrinologist is particularly knowledgeable about the function of the thyroid gland and the body's other hormone-secreting glands. Your endocrinologist will perform a proper physical exam and a blood test to measure the levels of TSH (thyroid-stimulating hormone), the hormone produced in your brain that stimulated the thyroid, and thyroid hormones (T3 and T4). A low level of T4 or T3 and a high level of TSH indicate an underactive thyroid. He may test for Thyroid antibodies.
HYPOTHYROIDISM TREATMENT
The treatment of hypothyroidism involves the supplementation of the deficient hormones by taking a synthetic thyroid hormone. This medication will gradually restore thyroid hormones levels and will reverse the signs and symptoms caused by hypothyroidism.

During treatment, your doctor will increase or decrease your dose, depending on your blood hormone

There are some important facts for you to know about synthetic thyroid hormones

levels.

In order to ensure proper absorption, you might need to take it with an empty stomach, ideally during the morning and wait at least one hour before eating or drinking.

If you start feeling better, don't quite your medication. The symptoms might come back.

If you have a lump, nodule, or other growth on your thyroid, an endocrinologist should examine it. Most are harmless, but occasionally a more serious change is happening.

If You have an enlarged thyroid gland, or goiter. A goiter is an enlargement of part or all of your thyroid gland. If you have one, see an endocrinologist to help decide what treatment will help.

Sometimes the problem is in the pituitary gland and not the thyroid for it not to work. Pituitary gland is in the brain and controls your body's production of thyroid hormone. Rarely the pituitary gland fails to release the thyrotropin-releasing hormone (TRH), which stimulates the production of thyroid hormone. This is a complicated condition and you need to see an endocrinologist to help you.

If you want to get pregnant or you become pregnant, it is very important see an endocrinologist to monitor your thyroid hormone medication treatment closely. Most women need to increase the dose of thyroid hormone while pregnant. Another reason to work with an endocrinologist during pregnancy is that untreated hypothyroidism increases the risk of having a miscarriage.

#### THYROID NODULES REVIEW

## WHAT ARE THYROID NODULES?

Thyroid nodules are solid or fluid lumps formed within your thyroid, which is a small and very important gland located in the front part of your neck, that creates some crucial hormones: triiodothyronine (T3) and thyroxine (T4); responsible for maintaining the body metabolism regulation. Most cases of thyroid nodules don't cause any problems and they usually affect women.

## THYROID NODULES SIGNS AND SYMPTOMS

Most cases of thyroid nodules are harmless and cause no symptoms. However, in other cases, they can become enlarged and cause the following symptoms:

Visible lump.

Lump sensation in your neck.

Shortness of breath and difficulty to swallow.

Sometimes, thyroid nodules are related to the incremental production of thyroid hormones (hyperthyroidism), and cause typical symptoms like:

Unexplained weight loss.

Rapid heartbeat.

THYROID NODULES CAUSES

There are many possible causes related to thyroid nodules, including:

IODINE DEFICIENCY. Having a poor iodine diet can cause your thyroid to develop some nodules. However, since the introduction of iodine to table salt in most countries, thyroid nodules related to a lack of iodine is not common anymore.

THYROID ADENOMA. Which is a noncancerous nodule that usually doesn't cause any serious problems. Sometimes, a thyroid adenoma can overproduce thyroid hormones, leading to hyperthyroidism.

MULTINODULAR GOITER. Here, the appearance of multiple nodules in the thyroid produces an increment in the gland size.

THYROID CANCER. Even though most cases of thyroid nodules are benign, there is a small possibility for them to be malignant. Sometimes, it's difficult to differentiate a benign nodule from a malignant one, but if your nodule causes pain, is very large or has a hard consistency, the chance of having a malignant nodule is bigger.

THYROID NODULES DIAGNOSIS

Sometimes, a goiter can be diagnosed just by practicing a simple neck palpation exam. In any case, your doctor will request some additional tests to determine the underlying cause of your condition, including:

BLOOD TEST. In order to detect your thyroid hormones levels.

THYROID ULTRASONOGRAPHY. This technique provides good quality information about the shape of the nodules and helps doctors distinguishing solid from cyst nodules.

FINE-NEEDLE ASPIRATION (FNA) BIOPSY. Usually, nodules are biopsied in order to make sure there is no cancer in your gland. During the procedure, your doctor inserts a very thin needle into the nodule and removes a sample of cells for microscopic analysis.

THYROID NODULES TREATMENT

The treatment of your nodules depends on its nature, whether they are benign or malignant.

**BENIGN NODULE** 

FOLLOW-UP. In case your nodule is benign and cause no significant symptoms, your doctor might recommend simply having regular checks of your condition.

THYROID HORMONE SUPPRESSION THERAPY. By using LEVOTHYROXINE, a synthetic form of thyroxine, doctors make sure to suppress the growth of the gland.

RADIOACTIVE IODINE. In case you have a benign but hyperfunctioning adenoma, your doctor will recommend using radioactive iodine, which causes the nodules to shrink.

ANTITHYROID DRUGS. These drugs block the excessive thyroid hormone production. Include methimazole and propylthiouracil.

In case your benign nodule is too large and makes it hard to breathe or swallow, you might require surgery.

#### **CANCEROUS NODULES**

If you have a cancerous nodule, the usual treatment recommended will be surgery. Your doctor will surgically remove your cancerous nodule along with the majority of the gland tissue — a procedure known as partial or total thyroidectomy. After thyroidectomy, you will require lifelong supplementary treatment with LEVOTHYROXINE, in order to obtain normal thyroid hormone levels. Additionally, doctors will use RADIOACTIVE IODINE to make sure any possible cancerous tissue remaining will be destroyed.

TREATING WEIGHT PROBLEMS

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In most cases, people gain or lose weight because they eat and drink more or less calories than they use during their normal activity. However, in some cases, your weight loss or weight gain may be due to a hormonal condition. At our Endocrinologists for part of a multidisciplinary team can diagnose and treat a range of weight problems. Learn more about our Weight Loss Programme.

WEIGHT GAIN

This can be caused by:

Having an underactive thyroid (hypothyroidism)

Diabetes treatment: people who have insulin to treat their diabetes often gain weight. And, in many cases, people who have diabetes eat more than necessary to avoid having low blood sugar (hypoglycaemia)

Cushing's syndrome: weight gain is a common symptom of this condition

Polycystic ovary syndrome (PCOS): this affects how the ovaries work, with symptoms including weight gain, often around the waist

**WEIGHT LOSS** 

This can be caused by:

Having an overactive thyroid (hyperthyroidism)

Addison's disease

Graves' disease (an autoimmune disorder)

Underactive pituitary gland (hypopituitarism)

Cancer

If you would like to know how our consultants can help you find the ideal treatment for your weight problems, regardless of the condition, learn more about our Weight Loss Programme.