

DIAGNOSTICS

DiagnosticsUpdate.com

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First Quarter 2021



2021: INTERNATIONAL YEAR OF HEALTH & CARE WORKERS

-PG 05

COVID-19 PCR TESTING

NOW AVAILABLE IN GABORONE
DIAGNOFIRM MEDICAL LABORATORIES

AVAILABLE AT

Walk-In Testing
Available at Covid Testing
Area at Diagnofirm Main Branch
Plot 12583, Nyerere Drive,
Middlestar, Gaborone

- Gaborone
- Maun
- Phikwe
- Francistown
- Kazangula
- Palapye

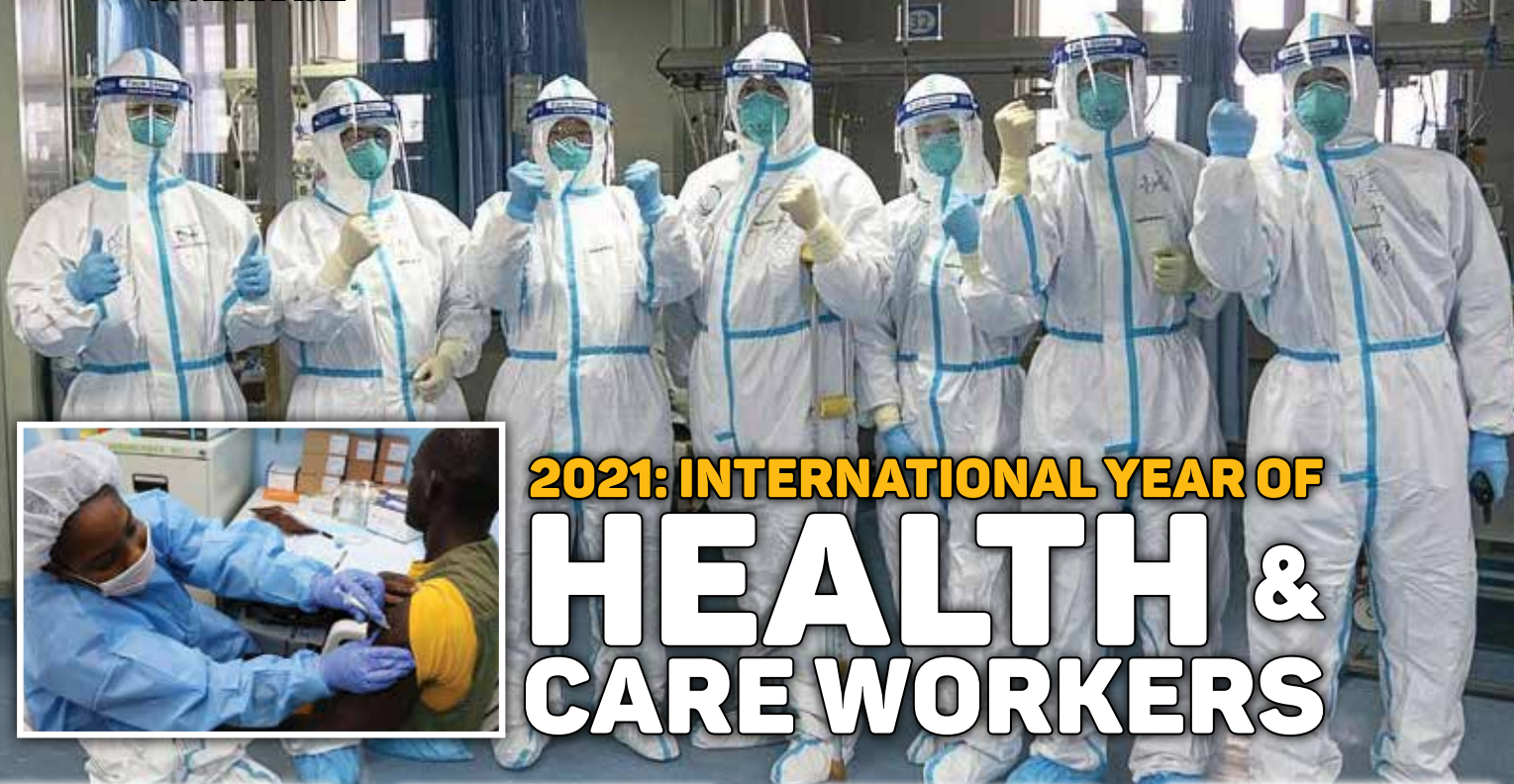


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Dear Reader

One of the great aspects of this job is having the opportunity to talk with and listen to the many different manufacturers, distributors, and of course the huge network of dealers that is the backbone of our industry.

Years ago I never would have ever imagined I would be in this position, and it is amazing. To say I really enjoy this job is an understatement.

What makes Diagnostics Update.com so unique is their informative and educative ways to the nation.

The staff and management is always looking for ways to inform their readers on how to tackle different medical issues. Basically, you want more people to enjoy reading more and more.

That said, there is still the need to get more readers to embrace healthy routines within and outside the homestead.

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to diagnose, treat, cure, or prevent any disease without the supervision of a medical doctor. Please be advised that medical information changes rapidly and new discoveries are being made on a daily basis. Therefore, some information in this publication may have change by the time you read it.

The only laboratory in Botswana accredited with SADCAS ISO 15189:2012 for SARS-CoV-2(Covid-19)



Operating Hours

Mon - Fri: 0700 - 1800hrs
Sat: 0800 - 1500hrs
Sun: 0800 - 1300hrs

COVID-19 PCR TESTING
NOW AVAILABLE AT DIAGNOFIRM



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MEDICAL LABORATORIES
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SADCAS ACCREDITS FIRST MEDICAL LABORATORY FOR COVID 19 DIAGNOSTIC TESTING

SADCAS is proud to announce the accreditation of its very first medical laboratory for conducting Coronavirus disease 2019 (COVID-19) diagnostic testing.

Diagnofirm Medical Laboratories Gaborone situated at Plot Number 12583, Nyerere Drive, Middlestar, Gaborone, Botswana has been accredited to ISO 15189:2012 for SARS-CoV-2/COVID-19 testing using the PCR/Bioer Extraction and Amplification System. The accreditation is a scope extension in the "Molecular Biology" scope. Diagnofirm was first accredited by SADCAS on 25 June 2015 to ISO 15189: 2012 and granted the accreditation number MED 012 for the following scopes: Chemistry; Endocrinology; Haematology; Microbiology; Molecular Biology; and Serology.

Diagnofirm Medical Laboratories Gaborone was re-assessed and renewal of accreditation was granted on 31 July 2020.

For COVID-19 Testing, Diagnofirm Medical Laboratories Gaborone underwent a scope extension assessment on 8 December 2020 by a team of two including Technical Assessor competent in the scope molecular biology. The assessment which was conducted virtually involved a vertical assessment and witnessing the scientist undertaking the test. No findings were raised during the assessment after which a decision to accredit in the test method "SARS-CoV-2/COVID-19" using the PCR Bioer Extraction and Amplification System was made by the SADCAS Accreditation Approvals Committee on 11 December 2020 based on the assessment team's recommendation.

The COVID-19 pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is now a major public health problem globally. Medical laboratories play a critical role in the healthcare delivery system by providing information for patient management, public health, disease control and surveillance. Reliable results of medical laboratories conducting tests to detect the SARS-CoV-2 virus are essential in the management of the pandemic. Accurate and early detection of SARS-CoV-2 in infected people are key in limiting transmission of COVID-19 and informing interventional measures.

Accreditation to ISO 15189:2012 is a vital tool for laboratories to improve quality performance, efficiency and reliability. The SADCAS. *Source: www.sadcas.org*

TRAUMATIC BRAIN INJURY



MILD TRAUMATIC BRAIN INJURY

The signs and symptoms of mild traumatic brain injury may include:

Physical symptoms

- Headache
- Nausea or vomiting
- Fatigue or drowsiness
- Problems with speech
- Dizziness or loss of balance

Sensory symptoms

- Sensory problems, such as blurred vision, ringing in the ears, a bad taste in the mouth or changes in the ability to smell
- Sensitivity to light or sound

Cognitive, behavioral or mental symptoms

- Loss of consciousness for a few seconds to a few minutes
- No loss of consciousness, but a state of being dazed, confused or disoriented
- Memory or concentration problems
- Mood changes or mood swings
- Feeling depressed or anxious
- Difficult sleeping
- Sleeping more than usual

MODERATE TO SEVERE TRAUMATIC BRAIN INJURIES

Moderate to severe traumatic brain injuries can include any of the signs and symptoms

of mild injury, as well as these symptoms that may appear within the first hours to days after a head injury:

Physical symptoms

- Loss of consciousness from several minutes to hours
- Persistent headache or headache that worsens
- Repeated vomiting or nausea
- Convulsions or seizures
- Dilation of one or both pupils of the eyes
- Clear fluids draining from the nose or ears
- Inability to awaken from sleep
- Weakness or numbness in fingers and toes
- Loss of coordination

Cognitive or mental symptoms

- Profound confusion
- Agitation, combativeness or other unusual behavior
- Slurred speech
- Coma and other disorders of consciousness

Children's symptoms

Infants and young children with brain injuries might not be able to communicate headaches, sensory problems, confusion and similar symptoms. In a child with traumatic brain injury, you may observe:

- Change in eating or nursing habits
- Unusual or easy irritability

- Persistent crying and inability to be consoled
- Change in ability to pay attention
- Change in sleep habits
- Seizures
- Sad or depressed mood
- Drowsiness
- Loss of interest in favorite toys or activities

When to see a doctor

Always see your doctor if you or your child has received a blow to the head or body that concerns you or causes behavioral changes. Seek emergency medical care if there are any signs or symptoms of traumatic brain injury following a recent blow or other traumatic injury to the head.

The terms "mild," "moderate" and "severe" are used to describe the effect of the injury on brain function. A mild injury to the brain is still a serious injury that requires prompt attention and an accurate diagnosis.

CAUSES

Traumatic brain injury is usually caused by a blow or other traumatic injury to the head or body. The degree of damage can depend on several factors, including the nature of the injury and the force of impact.

Common events causing traumatic brain injury include the following:

Falls

Falls from bed or a ladder, down stairs, in the bath, and other falls are the most common cause of traumatic brain injury overall, particularly in older adults and young children.

Vehicle-related collisions

Collisions involving cars, motorcycles or bicycles — and pedestrians involved in such accidents — are a common cause of traumatic brain injury.

Violence

Gunshot wounds, domestic violence, child abuse and

other assaults are common causes. Shaken baby syndrome is a traumatic brain injury in infants caused by violent shaking.

Sports injuries

Traumatic brain injuries may be caused by injuries from a number of sports, including soccer, boxing, football, baseball, lacrosse, skateboarding, hockey, and other high-impact or extreme sports. These are particularly common in youth.

Explosive blasts and other combat injuries

Explosive blasts are a common cause of traumatic brain injury in active-duty military personnel. Although how the damage occurs isn't yet well understood, many researchers believe that the pressure wave passing through the brain significantly disrupts brain function.

Traumatic brain injury also results from penetrating wounds, severe blows to the head with shrapnel or debris, and falls or bodily collisions with objects following a blast.

RISK FACTORS

The people most at risk of traumatic brain injury include:

Children, especially newborns to 4-year-olds
Young adults, especially those between ages 15 and 24
Adults age 60 and older
Males in any age group

Complications

Several complications can occur immediately or soon after a traumatic brain injury. Severe injuries increase the risk of a greater number of and more-severe complications.

Altered consciousness

Moderate to severe traumatic brain injury can result in prolonged or permanent changes in a person's state of consciousness, awareness

or

responsiveness. Different states of consciousness include:

Coma

A person in a coma is unconscious, unaware of anything and unable to respond to any stimulus. This results from widespread damage to all parts of the brain. After a few days to a few weeks, a person may emerge from a coma or enter a vegetative state.

Vegetative state

Widespread damage to the brain can result in a vegetative state. Although the person is unaware of surroundings, he or she may open his or her eyes, make sounds, respond to reflexes, or move.

It's possible that a vegetative state can become permanent, but often individuals progress to a minimally conscious state.

Minimally conscious state

A minimally conscious state is a condition of severely altered consciousness but with some signs of self-awareness or awareness of one's environment. It is sometimes a transitional state from a coma or vegetative condition to greater recovery.

Brain death

When there is no measurable activity in the brain and the brainstem, this is called brain death. In a person who has been declared brain dead, removal of breathing devices will result in cessation of breathing and eventual heart failure. Brain death is considered irreversible.

Physical complications Seizures

Some people with traumatic brain injury will develop

TO PAGE 11



2021: INTERNATIONAL YEAR OF HEALTH AND CARE WORKERS

WHO has designated 2021 the International Year of Health and Care Workers (YHCW) in recognition of their dedication to providing care during and despite the COVID-19 pandemic that has challenged health systems worldwide.

Health and care workers include all those engaged in health services, public health and related areas, as well as those providing support to these activities. This varied category of workers encompasses health professionals such as doctors, nurses, midwives, pharmacists and physiotherapists, but also allied health professionals such as mental health workers, social care workers, occupational health workers, radiographers, laboratory workers and others.

During the 73rd World Health Assembly, Member States spoke to the critical role of health and care workers in ensuring individuals' and communities' health and well-being. Member States emphasized that the COVID-19 pandemic has illustrated why all health and care workers are critical to health emergency responses and for health system preparedness and resilience.

Investing in health and care workers – their education, well-being and fair remuneration

Health employment acts as a boost to the economy and a multiplier of economic growth, which means that investing in the health and care workforce benefits the whole of society.

The health and social sector is a major employer of women and represents an important investment area for gender equality. One in 10 workers in member countries of the Organisation for Economic Co-operation and Development is engaged in the health sector, and three quarters of these workers are women.

The High-level Commission on Health Employment and Economic Growth has also estimated that investments in health employment can result in a 9-fold return on investment and up to 4% growth in gross domestic product (GDP).

The YHCW is an opportunity to draw attention to the need for greater investments in health and care workforce readiness, education and learning to manage the pandemic and its consequences and to roll out the COVID-19 vaccine.

Beyond COVID-19, investments are also needed in health and care workers' ability to deliver primary health care, manage noncommunicable diseases, and provide mental health services, maternal and child health care, long-term care and palliative care.

Investments in education, continuing professional development, well-being and occupational safety in all of these areas are important preconditions for retaining and attracting health and care professionals. Without making health and care work a desirable and supported career path, countries will struggle to attract newcomers, including in rural areas, or to progress towards universal health coverage and stronger, more resilient health systems.

Health and care workers deserve concrete action

Beyond offering praise and applause, the YHCW aims to energize countries to

collaboratively tackle persistent health and care worker challenges.

The health and well-being of the health and care workforce have always been important, but are now even more vital. As societies grapple with the consequences of prolonged stress and pressure on health and care workers, it is important that Member States take concrete steps to address their needs.

Throughout the year, WHO/Europe will work in collaboration with partners to show appreciation to the workforce dedicated to the health and care of others, and to advocate for concerted efforts to:

improve their working conditions invest in their education expand their roles protect their health and well-being. WHO also calls attention to the increasing scale of international health worker migration, especially from lower-income countries with fragile health systems, and the need for strengthened implementation of the WHO Global Code of Practice on the International Recruitment of Health Personnel.

Health and care workers are essential contributors to the advancement of the European Programme of Work's core priorities. Their responsibilities in working towards universal health coverage, protecting more people against health emergencies, and promoting health and well-being for all at all ages must be acknowledged not only with praise, but also with tangible measures.

Source: <https://www.euro.who.int/>

WHAT IS KIDNEY FAILURE?



Normal kidney



Diseased kidney

Your kidneys are a pair of organs located toward your lower back. One kidney is on each side of your spine. They filter your blood and remove toxins from your body. Kidneys send toxins to your bladder, which your body later removes during urination.

Kidney failure occurs when your kidneys lose the ability to sufficiently filter waste from your blood. Many factors can interfere with your kidney health and function, such as:

- toxic exposure to environmental pollutants or certain medications
- certain acute and chronic diseases
- severe dehydration
- kidney trauma

Your body becomes overloaded with toxins if your kidneys can't do their regular job. This can lead to kidney failure, which can be life-threatening if left untreated.

Usually someone with kidney failure will have a few symptoms of the disease. Sometimes no symptoms are present. Possible symptoms include:

- a reduced amount of urine
- swelling of your legs, ankles, and feet from retention of fluids caused by the failure of the kidneys to eliminate water waste
- unexplained shortness of breath
- excessive drowsiness or fatigue
- persistent nausea
- confusion
- pain or pressure in your chest
- seizures
- coma

disease may be difficult to pinpoint. They're often subtle and hard to identify. If you experience early signs of kidney disease, they may include:

- decreased urine output
- fluid retention that leads to swelling in limbs
- shortness of breath

Causes of kidney failure

Kidney failure can be the result of several conditions or causes. The cause typically also determines the type of kidney failure.

People who are most at risk usually have one or more of the following causes:

Early signs of kidney failure

Symptoms of early stage kidney

Loss of blood flow to the kidneys

Symptoms of kidney failure

COVID-19 CXR EXAMINATION

Based on Researchers

• In line with COVID-19 protocols simple chest x-ray examination is very critical to assist the clinician to rule out viral-pneumonia at early stage.

Use of simple chest x-ray for patients suspected of having the COVID-19, with difficulty in respiratory disease has been published by a group from medical imaging scientists.

• Simple chest x-ray imaging may play an important auxiliary role in the diagnosis of COVID-19 patients suspected and confirmed cases. An artificial intelligence algorithm, can quantitatively assess the severity of COVID-19 on the frontal chest x-ray examination performed using mobile digital

imaging, offering potential as a clinical researcher for scoring system for quantifying and monitoring COVID-19 findings according to a study.

• Mobile chest X-ray imaging is performed using mobile digital x-ray machine installed in moving vehicle that ensure compliance with standards approved by the Regulatory Authority.

• Mobile medical diagnostic imaging should be limited to simple chest x-ray examinations only and where it may have an impact on the patient management plan. Implication for practice indicate that at the time of this publication this review offer the most up to date recommendation for clinical practitioners in

medical diagnostic imaging, including radiographers, radiologist, private radiographer practitioners, that has to adjust to these new requirements to support optimal and safe diagnostic imaging practice for the diagnosis of COVID-19 cases.

Core role of clinicians

• What radiographer and radiologist need to know, is to review current literature related to the diagnosis, management and follow-up of suspected and confirmed COVID-19 cases, meanwhile observing COVID-19 protocols.

• To gain an understanding of the knowledge and skills required to design a mobile diagnostic facility that ensures good

patient care, adequate space and shielding, with minimum movement of patients and staff, in compliance with regulatory requirements and radiation protection principles which, in turn will address the issue of CORONA/COVID 19 pandemic- social distancing and stay safe. The main focus is serving individual, public and industries that require to maintain social distancing protocols for the complete medical diagnostic imaging. The mobile medical imaging units must be well equipped and can meet basic chest x-ray imaging requirements for medical practitioners.

Core customer benefits

• Through the use of the mobile

TO PAGE 07

What to know about Recurrent Aphthous Ulcers (mouth ulcers)

By: **Dr Mphoentle Thangwane**
Dental Surgeon

Ulcers are sores which appear inside the mouth. They are usually small and can be uncomfortable and painful. Recurrent ulcers come and go and appear in different places inside the mouth. They are not the same as cold sores which appear on the outside of the lip and are caused by a virus. Ulcers are not infectious

Over 60% of the population have recurrent ulcers at some point in their lives. They often begin in childhood but most people grow out of them by the late twenties. The cause is unknown, but the disorder tends to run in families.

Small ulcers or minor type can appear inside the cheeks, on the lips, tongue and gums and occasionally on the roof of the mouth.

Most of these ulcers are less than 1 cm in size but often 2 or 3 appear together. Minor ulcers usually begin with pain or burning followed in 1 to 2 days of an ulcer. It lasts for 4 to 10 days. Sores appear to be shallow, round or oval spots with a yellow gray center and a red boarder. They do not leave scars.

Large ulcers or major type may appear near the tonsils and very painful, especially when swallowing. They are less common than small ones. These larger ulcers are irregularly shaped, can take weeks to heal and frequently leave scars.

It is also very common to have up to 100 tiny ulcers (Herpetiform) which can join up to form one large, painful ulcer. This is often in the floor of the mouth.

What causes mouth ulcers?
Recurrent ulcers are not infectious and cannot be

caught through kissing or sharing utensils. They may be caused by the body attacking itself "autoimmune "disease.

Possible factors include:

- Iron deficiency or vitamins especially vitamin c and B12
- Overt anemia
- Bowel diseases like crohn's disease, ulcerative colitis or celiac disease
- Reiter's disease
- Hormonal changes-many women get ulcers at the time of their period
- Stress
- Certain foods
- Treatment

Most ulcers heal by themselves. To make your mouth more comfortable it is important to keep your mouth clean. Your dentist or doctor could recommend

- ❖ Pain relievers
- ❖ Mouth rinses
- ❖ Corticosteroids taken by



Ulcer 1



Ulcer 2

mouth

Doctors or dentists make the diagnosis based on the pain and the appearance of the ulcers. If a mouth ulcer has not healed in three weeks you must go back to your doctor or dentist.

FROM PAGE 06

medical diagnostic imaging for chest x- ray will enable the clients/patients and member of public who require the service to increase productivity of existing resources by not travelling long distance.

- Drastically reduce the transmission of disease; reduce the cost of current medical imaging, focus on their business and scaling up without worrying about the medical imaging and delivery services, implementing COVID -19 by reducing the risks, avoiding movement, keeping safe distance from others and more importantly staying safe/ health.
- Early diagnosis of suspect COVID-19, with difficulty in respiratory diseases to reduce spread.

Core benefit of clinicians.

- It has been now well-documented that mobile diagnostic imaging for chest x-ray should be the first-line imaging tool for patients suspected of having the COVID-19 findings according to a study published on May 2020. Patient can only be transferred to main medical imaging for CT or other modalities when the mobile chest x-ray and clinical presentation is inconclusive.
- The key findings are that mobile medical imaging plays an important role in the diagnosis of COVID-19 patients, mainly those seriously affected. But in general speaking practice differs widely among different countries, mainly due to the variability of access to resources i.e. viral testing and diagnostic imaging equipment, specialized staff, protective equipment in consideration of

a radiographer or a radiologist working in Botswana.

- In Botswana radiographer and radiologist working on the front-line, they should be aware of the potential risks associated with COVID -19 and engage in optimal strategies to reduce the transmission by advocating for mobile digital imaging. The role of a radiographer and radiologist in vetting, conducting and often reporting the medical imaging examinations is vital as well as contributions to the patient safety and care.
- New information about COVID-19 emerges everyday as more diagnostic tests are being carried out. Mobile chest x-ray imaging has a unique place in this new evidence-base and radiographer/ radiologist are working on the front-line to deliver care for some of the most seriously affected patients, often facing

challenging situation with staff and resources shortages.

- In conclusion the role of mobile chest x-ray imaging in facility dealing with COVID-19 and other patient in general cannot be emphasized and this document is neither conclusive nor exhaustive therefore person undertaking mobile chest x-ray imaging are expected to demonstrate high competence in both Radiation Protection Safety and Practical Procedure in order to keep patient, staff and public exposure to radiation AS LOW AS REASONABLY ACHIEVABLE- ALARA Principles, while observing COVID -19 protocols.

**Prepared and Compiled by-
Gerald M.Z-
Supt Rad./Private Practice in
Greater Gaborone.
15/March/ 2021.**

WHAT IS KIDNEY FAILURE?

FROM PAGE 06

A

sudden loss of blood flow to your kidneys can prompt kidney failure. Some conditions that cause loss of blood flow to the kidneys include:

- a heart attack
- heart disease
- scarring of the liver or liver failure
- dehydration
- a severe burn
- an allergic reaction
- a severe infection, such as sepsis
- High blood pressure and anti-inflammatory medications can also limit blood flow.

Urine elimination problems

When your body can't eliminate urine, toxins build up and overload the kidneys. Some cancers can block the urine passageways, such as:

- prostate (most common type in men)
- colon
- cervical
- bladder

Other conditions can interfere with urination and possibly lead to kidney failure, including:

- kidney stones
- an enlarged prostate
- blood clots within your urinary tract
- damage to your nerves that control your bladder

Other causes

Some other things that may lead to kidney failure include:

- a blood clot in or around your kidneys
- infection
- an overload of toxins from heavy metals
- drugs and alcohol
- vasculitis, an inflammation of blood vessels
- lupus, an autoimmune disease that can cause inflammation of many body organs

glomerulonephritis, an inflammation of the small blood vessels of the kidneys

- hemolytic uremic syndrome, which involves the breakdown of red blood cells following a bacterial infection, usually of the intestines
- multiple myeloma, a cancer of the plasma cells in your bone marrow
- scleroderma, an autoimmune condition that affects your skin
- thrombotic thrombocytopenic purpura, a disorder that causes blood clots in small vessels
- chemotherapy drugs that treat cancer and some autoimmune diseases
- dyes used in some imaging tests
- certain antibiotics
- uncontrolled diabetes

5 TYPES OF KIDNEY FAILURE

There are five different types of kidney failure:

Acute prerenal kidney failure

Insufficient blood flow to the kidneys can cause acute prerenal kidney failure. The kidneys can't filter toxins from the blood without enough blood flow. This type of kidney failure can usually be cured once your doctor determines the cause of the decreased blood flow.

Acute intrinsic kidney failure

Acute intrinsic kidney failure can result from direct trauma to the kidneys, such as physical impact or an accident. Causes also include toxin overload and ischemia, which is a lack of oxygen to the kidneys.

The following may cause ischemia:

- severe bleeding
- shock
- renal blood vessel obstruction
- glomerulonephritis

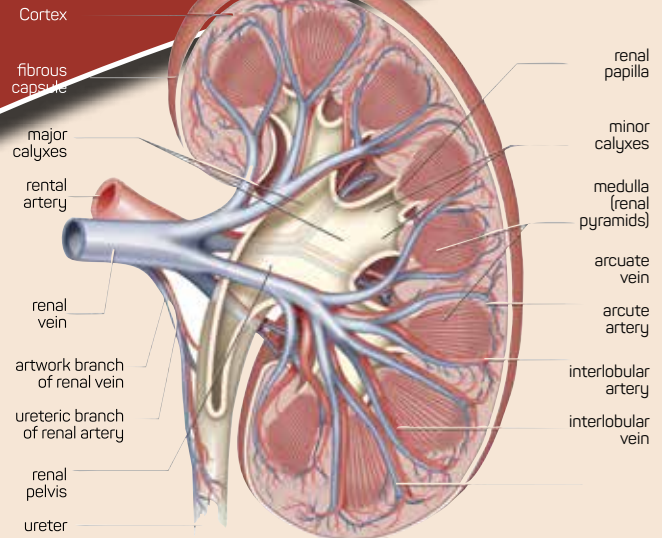
Chronic prerenal kidney failure

When there isn't enough blood flowing to the kidneys for an extended period of time, the kidneys begin to shrink and lose the ability to function.

Chronic intrinsic kidney failure

This happens when there's long-term damage to the kidneys due to intrinsic

KIDNEY FAILURE



kidney disease. Intrinsic kidney disease develops from a direct trauma to the kidneys, such as severe bleeding or a lack of oxygen.

Chronic post-renal kidney failure

A long-term blockage of the urinary tract prevents urination. This causes pressure and eventual kidney damage.

KIDNEY FAILURE TESTS

There are several tests your doctor can use to diagnose kidney failure.

Urinalysis

Your doctor may take a urine sample to test for any abnormalities, including abnormal protein or sugar that spills into the urine.

They may also perform a urinary sediment examination. This test measures the amount of red and white blood cells, looks for high levels of bacteria, and searches for high numbers of tube-shaped particles called cellular casts.

Urine volume measurements

Measuring urine output is one of the simplest tests to help diagnose kidney failure. For example, low urinary output may suggest that kidney disease is due to a urinary blockage, which multiple illnesses or injuries can cause.

Blood samples

Your doctor may order blood tests to measure substances that are filtered by your kidneys, such as blood urea nitrogen (BUN) and creatinine (Cr). A rapid rise in these levels may indicate acute kidney failure.

Imaging

Tests like ultrasounds, MRIs, and CT scans provide images of the kidneys themselves as well as the urinary tract. This allows your doctor to look for blockages or abnormalities in your kidneys.

Kidney tissue sample

Tissue samples are examined for abnormal deposits, scarring, or infectious organisms. Your doctor will use a kidney biopsy to collect the tissue sample. A biopsy is a simple procedure that's usually performed while you're awake.

Your doctor will give you a local anesthetic so you don't feel any pain. They'll then insert a biopsy needle through your skin and down into your kidney to get the sample. X-ray or ultrasound equipment will locate the kidneys and help your doctor in guiding the needle.

These tests can help determine whether your kidneys are functioning as they should. Other kidney function tests may also help your doctor determine what's causing the symptoms.

COVID-19 BASICS

Symptoms, spread and other essential information about coronavirus and COVID-19

As we continue to learn more about coronavirus and COVID-19, it can help to reacquaint yourself with some basic information. For example, understanding how the virus spreads reinforces the importance of mask wearing and physical distancing. Knowing how COVID has impacted people of all ages may reinforce the need for everyone to adopt health-promoting behaviors. And reviewing the common symptoms of COVID-19 can help you know if it's time to self-isolate.

WHAT IS CORONAVIRUS?

Coronaviruses are an extremely common cause of colds and other upper respiratory infections. SARS-CoV-2, short for severe acute respiratory syndrome coronavirus 2, is the official name for the coronavirus responsible for COVID-19.

WHAT IS COVID-19?

COVID-19, short for "coronavirus disease 2019," is the name of the disease caused by the SARS-CoV-2 coronavirus.

DO ADULTS YOUNGER THAN 65 WHO ARE OTHERWISE HEALTHY NEED TO WORRY ABOUT COVID-19?

Yes, they do. Although the risk of serious illness or death from COVID-19 increases steadily with age, younger people can get sick enough from the disease to require hospitalization. And certain underlying medical conditions may increase the risk of serious COVID-19 for individuals of any age.

People of any age should take preventive health measures like frequent hand washing, physical distancing, and wearing a mask when going out in public, to help protect themselves and to reduce the chances of spreading the infection to

others.

Healthcare workers, older people, and people with underlying medical conditions have been prioritized to receive a COVID vaccine. But eventually, even young, healthy people should be vaccinated to protect both themselves and their community.

TO WHAT EXTENT HAVE YOUNGER ADULTS BEEN IMPACTED BY COVID-19?

According to the CDC's COVID Data Tracker, through early February 2021, about 44% of COVID cases in the US have been in adults

TO PAGE 10

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CATTLE VACCINATION PROGRAMME

A. TEMPORARY

1. Calf paratyphoid – 2 weeks – 2 months
2. Pasterurella – a month before any transportation
3. Heartwater – 2 weeks before movement from heartwater free to heartwater zone.
4. Contageous abortion (brucella S 19) heifers – 6-8 months

Vaccination Programming Sheep/Goat 3 months and above

1. Pateurella
2. Pulpy Kidney – to be 2 weeks before deworming if it's for the first time
3. Deworming

The best time for the three procedures is May - July

B. ANNUAL

1. Pasteurella
2. Botulism
3. Blackleg
4. Anthrax
5. Deworming

May – June

1. Vitamin A July or earlier depending on when dry season starts

1. Pasteurella
2. Lumby skin disease
3. Deworming

September – November

COVID-19 BASICS

Symptoms, spread and other essential information about coronavirus and COVID-19

FROM PAGE 09

aged 18 to 39 years. However, younger adults are less likely than older adults to die of COVID-19: Adults in the 18 to 39 age range account for less than 2% of COVID deaths, compared to 81% for people older than 65.

But younger people can get sick enough from the disease to require hospitalization or to die. And they may be among the long haulers — people who continue to experience fatigue, brain fog, shortness of breath, or other symptoms weeks and months after their illness.

And as is true in other age groups, COVID illness and death has a disproportionate impact on younger adults of color.

Because healthy younger adults are at lower risk than other populations, they are likely to be among the last to be vaccinated. That means it is even more important to continue wearing masks, maintaining physical distance, and avoid gathering in groups.

WHAT ARE THE SYMPTOMS OF COVID-19?

Some people infected with the virus have no symptoms. When the virus does cause symptoms, common ones include fever, body ache, dry cough, fatigue, chills, headache, sore throat, loss of appetite, and loss of smell. In some people, COVID-19 causes more severe symptoms like high fever, severe cough, and shortness of breath, which often indicates pneumonia.

People with COVID-19 can also experience neurological symptoms, gastrointestinal (GI) symptoms, or both. These may occur with or without respiratory symptoms.

For example, COVID-19 affects brain function in some people. Specific neurological symptoms seen in people with COVID-19 include loss of smell, inability to taste, muscle weakness, tingling or numbness in the hands and feet, dizziness, confusion, delirium, seizures, and stroke.

In addition, some people have gastrointestinal (GI) symptoms, such as loss of appetite, nausea, vomiting, diarrhea, and abdominal pain or discomfort associated with COVID-19. The virus that causes COVID-19 has also been detected in stool, which reinforces the importance of hand washing after every visit to the bathroom and regularly disinfecting bathroom fixtures.

WHY DO SOME PEOPLE GET VERY SICK

FROM COVID-19 WHILE OTHERS DO NOT?

One of the most perplexing aspects of coronavirus is why it strikes people so differently. Why do some people sail through without a symptom, while others — even some who are otherwise healthy and relatively young — get extremely sick or even die? It may have to do with interferons.

New research suggests that up to 14% of people who develop severe COVID-19 have an inadequate interferon response. In some people, this happens because their own antibodies mistakenly attack and neutralize their interferons. Others have a genetic mutation that prevents their body from producing enough of a certain type of interferon.

Interferons are an important component of innate immunity, the quick, nonspecific immune defense the body mounts within minutes of infection to rid the body of invaders. Interferons help protect the body in a number of ways: they signal nearby cells to guard themselves against invasion; they signal infected cells to die; and they activate the adaptive immune system to mount a specific, long-term antibody response. An inadequate interferon response could help explain why some people — especially some young people without underlying conditions — get so much sicker than others their age.

Interferon treatments do exist to treat other illnesses. And interferon inhalers were given to healthcare workers in China to help prevent infection. But treatments come with their own risks, and questions about dose, timing, and type of interferon would need to be resolved before interferon therapy could be safely used for COVID-19.

Another important reason for differences in severity of COVID-19 illness is also related to the immune system. If the immune system doesn't turn off once the virus is controlled, it can go into overdrive. The result: an intense and widespread inflammatory response damaging tissues throughout the body. This is often referred to as cytokine storm.

CAN COVID-19 SYMPTOMS WORSEN RAPIDLY AFTER SEVERAL DAYS OF ILLNESS?

Common symptoms of COVID-19 include fever, dry cough, fatigue, loss of appetite, loss of smell, and body ache. In some people, COVID-19 causes more severe symptoms like high fever, severe cough, and shortness of breath, which often indicates pneumonia.

A person may have mild symptoms for about one week, then worsen rapidly. Let your doctor know if your symptoms quickly worsen over a short period of time. Also call the doctor right away if you or a loved one with COVID-19 experience any of the following emergency symptoms: trouble breathing, persistent pain or pressure in the chest, confusion or inability to arouse the person, or bluish lips or face.

WHAT ARE CYTOKINE STORMS AND WHAT DO THEY HAVE TO DO WITH COVID-19?

A cytokine storm is an overreaction of the body's immune system. In some people with COVID-19, the immune system releases immune messengers, called cytokines, into the bloodstream out of proportion to the threat or long after the virus is no longer a threat.

When this happens, the immune system attacks the body's own tissues, potentially causing significant harm. A cytokine storm triggers an exaggerated inflammatory response that may damage the liver, blood vessels, kidneys, and lungs, and increase formation of blood clots throughout the body. Ultimately, the cytokine storm may cause more harm than the coronavirus itself.

A simple blood test can help determine whether someone with COVID-19 may be experiencing a cytokine storm. Many doctors, including those in the United States, have been treating very ill COVID-19 patients with dexamethasone and other corticosteroids (prednisone, methylprednisolone). Corticosteroids are potent anti-inflammatory drugs and thus make biologic sense for those patients who have developed an exaggerated inflammatory response to the viral infection.

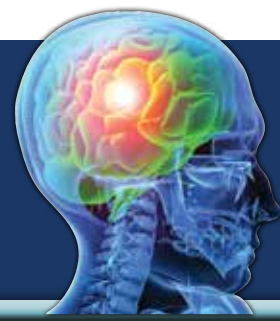
ONE OF THE SYMPTOMS OF COVID-19 IS SHORTNESS OF BREATH. WHAT DOES THAT MEAN?

Shortness of breath refers to unexpectedly feeling out of breath, or winded. But when should you worry about shortness of breath? There are many examples of temporary shortness of breath that are not worrisome. For example, if you feel very anxious, it's common to get short of breath and then it goes away when you calm down.

However, if you find that you are ever breathing harder or having trouble getting air each time you exert yourself, you always need to call your doctor. That was true before we had the recent outbreak of COVID-19, and it will still be true after it is over.

TO PAGE 12

TRAUMATIC BRAIN INJURY



FROM PAGE 04

seizures. The seizures may occur only in the early stages, or years after the injury. Recurrent seizures are called post-traumatic epilepsy.

Fluid buildup in the brain (hydrocephalus)

Cerebrospinal fluid may build up in the spaces in the brain (cerebral ventricles) of some people who have had traumatic brain injuries, causing increased pressure and swelling in the brain.

Infections

Skull fractures or penetrating wounds can tear the layers of protective tissues (meninges) that surround the brain. This can enable bacteria to enter the brain and cause infections. An infection of the meninges (meningitis) could spread to the rest of the nervous system if not treated.

Blood vessel damage

Several small or large blood vessels in the brain may be damaged in a traumatic brain injury. This damage could lead to a stroke, blood clots or other problems.

Headaches

Frequent headaches are very common after a traumatic brain injury. They may begin within a week after the injury and could persist for as long as several months.

Vertigo

Many people experience vertigo, a condition characterized by dizziness, after a traumatic brain injury.

Sometimes, any or several of these symptoms might linger for a few weeks to a few months after a traumatic brain injury. When a combination of these symptoms lasts for an extended period of time, this is generally referred to as persistent post-concussive symptoms.

Traumatic brain injuries at the base of the skull can cause nerve damage to the nerves that emerge directly from the brain (cranial nerves). Cranial nerve damage may result in:

- Paralysis of facial muscles or losing sensation in the face
- Loss of or altered sense of

- smell or taste
- Loss of vision or double vision
- Swallowing problems
- Dizziness
- Ringing in the ear
- Hearing loss

Intellectual problems

Many people who have had a significant brain injury will experience changes in their thinking (cognitive) skills. It may be more difficult to focus and take longer to process your thoughts. Traumatic brain injury can result in problems with many skills, including:

Cognitive problems

- Memory
- Learning
- Reasoning
- Judgment
- Attention or concentration

Executive functioning problems

- Problem-solving
- Multitasking
- Organization
- Planning
- Decision-making
- Beginning or completing tasks

COMMUNICATION PROBLEMS

Language and communications problems are common following traumatic brain injuries. These problems can cause frustration, conflict and misunderstanding for people with a traumatic brain injury, as well as family members, friends and care providers.

Communication problems may include:

- Difficulty understanding speech or writing
- Difficulty speaking or writing
- Inability to organize thoughts and ideas
- Trouble following and participating in conversations

Communication problems that affect social skills may include:

- Trouble with turn taking or topic selection in conversations
- Problems with changes in tone, pitch or emphasis to express emotions, attitudes or subtle differences in meaning
- Difficulty understanding nonverbal signals
- Trouble reading cues from listeners
- Trouble starting or stopping conversations
- Inability to use the muscles needed to form words

(dysarthria)

BEHAVIORAL CHANGES

People who've experienced brain injury may experience changes in behaviors. These may include:

- Difficulty with self-control
- Lack of awareness of abilities
- Risky behavior
- Difficulty in social situations
- Verbal or physical outbursts

EMOTIONAL CHANGES

Emotional changes may include:

- Depression
- Anxiety
- Mood swings
- Irritability
- Lack of empathy for others
- Anger
- Insomnia

SENSORY PROBLEMS

Problems involving senses may include:

- Persistent ringing in the ears
- Difficulty recognizing objects
- Impaired hand-eye coordination
- Blind spots or double vision
- A bitter taste, a bad smell or difficulty smelling
- Skin tingling, pain or itching
- Trouble with balance or dizziness

DEGENERATIVE BRAIN DISEASES

The relationship between degenerative brain diseases and brain injuries is still unclear. But some research suggests that repeated or severe traumatic brain injuries might increase the risk of degenerative brain diseases. But this risk can't be predicted for an individual — and researchers are still investigating if, why and how traumatic brain injuries might be related to degenerative brain diseases.

A degenerative brain disorder can cause gradual loss of brain functions, including:

- Alzheimer's disease, which primarily causes the progressive loss of memory and other thinking skills
- Parkinson's disease, a progressive condition that causes movement problems, such as tremors, rigidity and slow movements
- Dementia pugilistica — most often associated with repetitive blows to the head in career boxing — which causes symptoms of dementia and movement problems

PREVENTION

Follow these tips to reduce the risk of brain injury:

- Seat belts and airbags. Always wear a seat belt in a motor vehicle. A small child should always sit in the back seat of a car secured in a child safety seat or booster seat that is appropriate for his or her size and weight.
- Alcohol and drug use. Don't drive under the influence of alcohol or drugs, including prescription medications that can impair the ability to drive.
- Helmets. Wear a helmet while riding a bicycle, skateboard, motorcycle, snowmobile or all-terrain vehicle. Also wear appropriate head protection when playing baseball or contact sports, skiing, skating, snowboarding or riding a horse.
- Pay attention to your surroundings. Don't drive, walk or cross the street while using your phone, tablet or any smart device. These distractions can lead to accidents or falls.

PREVENTING FALLS

The following tips can help older adults avoid falls around the house:

- Install handrails in bathrooms
- Put a nonslip mat in the bathtub or shower
- Remove area rugs
- Install handrails on both sides of staircases
- Improve lighting in the home, especially around stairs
- Keep stairs and floors clear of clutter
- Get regular vision checkups
- Get regular exercise

PREVENTING HEAD INJURIES IN CHILDREN

The following tips can help children avoid head injuries:

- Install safety gates at the top of a stairway
- Keep stairs clear of clutter
- Install window guards to prevent falls
- Put a nonslip mat in the bathtub or shower
- Use playgrounds that have shock-absorbing materials on the ground
- Make sure area rugs are secure
- Don't let children play on fire escapes or balconies

Source: <https://www.mayoclinic.org/>

COVID-19 BASICS

Symptoms, spread and other essential information about coronavirus and COVID-19

FROM PAGE 10

Meanwhile, it's important to remember that if shortness of breath is your only symptom, without a cough or fever, something other than COVID-19 is the likely problem.

DOES COVID-19 CAUSE STROKES? WHAT ABOUT BLOOD CLOTS IN OTHER PARTS OF THE BODY?

Strokes occur when the brain's blood supply is interrupted, usually by a blood clot. There have been reports of a greater-than-expected number of younger patients being hospitalized for, and sometimes dying from, serious strokes. These strokes are happening in patients who test positive for coronavirus but who do not have any traditional risk factors for stroke. They tend to have no COVID-19 symptoms, or only mild symptoms. The type of stroke occurring in these patients typically occurs in much older patients.

COVID-related strokes occur because of a body-wide increase in blood clot formation, which can damage any organ, not just the brain. A blood clot in the lungs is called pulmonary embolism and can cause shortness of breath, chest pain, or death; a blood clot in or near the heart can cause a heart attack; and blood clots in the kidneys can cause kidney damage requiring dialysis.

One possible reason for COVID-related blood clots may be a disturbance in the levels of a protein, called factor V, that is involved in blood clotting.

CAN COVID-19 AFFECT BRAIN FUNCTION?

COVID-19 does appear to affect brain function in some people. Specific neurological symptoms seen in people with COVID-19 include loss of smell, inability to taste, muscle weakness, tingling or numbness in the hands and feet, dizziness, confusion, delirium, seizures, and stroke.

One study that looked at 214 people with moderate to severe COVID-19 in Wuhan, China found that about one-third of those patients had one or more neurological symptoms. Neurological symptoms were more common in people with more severe disease.

Neurological symptoms have also been seen in COVID-19 patients in the US and around the world. Some people with neurological symptoms tested positive for COVID-19 but did not have any respiratory symptoms like coughing or difficulty breathing; others experienced both neurological and

respiratory symptoms.

Experts do not know how the coronavirus causes neurological symptoms. They may be a direct result of infection or an indirect consequence of inflammation or altered oxygen and carbon dioxide levels caused by the virus.

"New confusion or inability to rouse" is on the CDC's list of emergency warning signs that should prompt you to get immediate medical attention.

IS A LOST SENSE OF SMELL A SYMPTOM OF COVID-19? WHAT SHOULD I DO IF I LOSE MY SENSE OF SMELL?

A lost sense of smell, known medically as anosmia, is a symptom of COVID-19. This is not surprising, because viral infections are a leading cause of loss of sense of smell, and COVID-19 is caused by a virus. Still, loss of smell might help doctors identify people who do not have other symptoms, but who might be infected with the COVID-19 virus — and who might be unwittingly infecting others.

In addition to COVID-19, loss of smell can also result from allergies as well as other viruses, including rhinoviruses that cause the common cold. So anosmia alone does not mean you have COVID-19.

Tell your doctor right away if you find yourself newly unable to smell. He or she may prompt you to get tested and to self-isolate.

HOW LONG IS IT BETWEEN WHEN A PERSON IS EXPOSED TO THE VIRUS AND WHEN THEY START SHOWING SYMPTOMS?

On average, the time from exposure to symptom onset (known as the incubation period) is about five to six days. However, studies have shown that symptoms could appear as soon as three days after exposure to as long as 13 days later. These findings continue to support the CDC recommendation of self-quarantine and monitoring of symptoms for 7 to 14 days post exposure.

HOW DOES CORONAVIRUS SPREAD?

The coronavirus is thought to spread mainly from person to person. This can happen between people who are in close contact with one another. Droplets that are produced when an infected person coughs or sneezes may land in the mouths or noses of people who are nearby, or possibly be inhaled into their lungs.

A person infected with coronavirus — even one with no symptoms — may emit aerosols when they talk or breathe. Aerosols are infectious viral particles that can float or drift around in the air for up to three hours. Another person can breathe in these aerosols and become infected with the coronavirus. This is why everyone should wear a mask that covers their nose and mouth when they go out in public.

Coronavirus can also spread from contact with infected surfaces or objects, though this is less common. For example, a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

The virus may be shed in saliva, semen, and feces; whether it is shed in vaginal fluids isn't known. Kissing can transmit the virus. Transmission of the virus through feces, or during vaginal or anal intercourse or oral sex, appears to be extremely unlikely at this time.

WHAT DOES THE CDC'S DEFINITION OF "CLOSE CONTACTS" MEAN FOR ME?

The CDC defines a close contact as someone who spends 15 minutes or more within six feet of a person with COVID-19 over a period of 24 hours.

Close contacts are at increased risk of infection. When a person tests positive for COVID-19, contact tracers may identify their close contacts and urge them to quarantine to prevent further spread. Based on the new definition, more people will now be considered close contacts.

Many factors can affect the chances that infection will spread from one person to another. These factors include whether or one or both people are wearing masks, whether the infected person is coughing or showing other symptoms, and whether the encounter occurred indoors or outdoors. Though the "15 minutes within six feet rule" is a helpful guideline, it's always best to minimize close interactions with people who are not members of your household.

The CDC's definition was influenced by a case described in the CDC's Morbidity and Mortality Weekly Report in which a correctional officer in Vermont is believed to have been infected after being within six feet for 17 non-consecutive minutes of six asymptomatic individuals, all of whom later tested positive for COVID-19.

Source: <http://diagnofirm.co.bw/covid-19/>



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Cell: 7784 8741
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 01:00PM

Mochudi Depot

Unit 176, Raserura Road,
Inside Botsogo Medical Centre
Mochudi
Cell: 7566 1125
Mon-Fri: 08:00AM - 06:00PM
Sat: 08:00AM - 02:00PM

Ramotswa Depot

Plot 16 & 17,
Lesetlhana Ward
Ramotswa
Cell: 7569 8913
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 01:00PM

Lethakane Depot

Unit-1, Tawana Ward,
Rapha Complex,
Lethakane
Cell: 7569 8914
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 01:00PM

Mogoditshane Depot

Plot 1296, Unit-1,
Mogoditshane
Gaborone
Tel: 373 2986
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 12:30PM

Railpark Mall Depot

Plot 471, Unit-G37A,
Railpark Mall,
Gaborone
Tel: 373 2985
Mon-Fri: 08:00AM - 07:00PM
Sat: 08:00AM - 04:00PM

Airport Junction Depot

Plot 70665, Unit-24&24A,
Inside MRI Clinic
Gaborone
Tel: 373 2988
Mon-Fri: 09:00AM - 07:00PM
Sat: 09:00AM - 03:00PM

Turn Right Mall

Plot 62, Shop 15,
Inside AO Clinic
Mogoditshane, Gaborone
Tel: 373 2974
Mon-Fri: 08:00AM - 05:00PM
Sat: 09:00AM - 12:30PM

Phakalane Depot

Plot 42794, Unit-2,
Phakalane Medical Centre
Gaborone
Tel: 373 2987
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 12:30PM

Acacia Mall

Plot 75123, Unit14A,
Inside Dr.Gure's Clinic
Gaborone
Tel: 373 2988
Mon-Fri: 09:00AM - 07:00PM
Sat: 09:00AM - 03:00PM

Setlhoa Retail Park

Unit 11,
Block 10, Setlhoa
Gaborone
Tel: 373 2969
Mon-Fri: 08:00AM - 05:00PM
Sat: 08:00AM - 01:00PM

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