



Healthy Facility Magazine

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The Dialysis Patient

by Dr. Andrew Lakhan



Being diagnosed with kidney failure is a significant turning point in anyone's life. One of the main functions of the kidneys is filtering waste products and excess fluids from the blood, which is then excreted in the urine. When the kidneys shut down, all of these processes stop and dangerous levels of fluid, electrolytes and wastes build up in the body. This can cause severe illness or even death.

Patients with kidney failure are offered renal replacement therapy. These include peritoneal dialysis, haemodialysis and transplantation. Within the Eastern Regional Health Authority (ERHA), only haemodialysis is available as a form of treatment at this time. Haemodialysis aims to substitute, as best as possible, the functions previously carried out by the kidneys. The process involves connecting the patient to the dialysis machine via a vascular access point. The patient's blood is circulated through the dialysis machine where excess fluids and toxins are filtered out

before being returned to the body. The duration and frequency of this process is determined by the kidney specialist. It is usually done two or three times per week, around three hours each time, for the rest of the patients' lives or until a more definitive solution is found- that being a successful kidney transplant. The process itself is fairly painless and most patients are even able to sleep through the three-hour sessions.

Starting dialysis is in itself a process. Accepting the diagnosis and the management plan is very important. Understandably, this can be difficult and as such, family and friends are encouraged to be part of this process. The Medical Social Worker is also available to counsel the patient and relatives where needed. Once someone has agreed to move forward with dialysis, there are three main steps.

Step 1 - Establish a Support System.

Dialysis is a life changing event but having the support of family or friends can ease this transition. Patients and their families are encouraged to become educated on the process of dialysis and the possible effects it can have. For example, some patients require assistance getting to and from the dialysis centers as they may be unable to drive themselves. Others need help to stay on track with taking medications and dietary restrictions. Then, there are those who just require emotional support and encouragement.

Dialysis affects everyone differently and everyone should have a support system.

Step 2 - Obtain Funding. Dialysis is quite expensive if pursued privately, where prices range from \$1,000.00 - \$1,800.00 per session. Thankfully, the Ministry of Health has a programme to fund 12 sessions per month for all qualifying patients at various dialysis centers throughout the country. With the aid of the Medical Social Work Department, the funding application can be completed in a few weeks and approval granted shortly after. Most patients, once willing to commit to the process, receive approval for funding.

Step 3 - Vascular access. All patients undergoing haemodialysis require a vascular access to connect them to the dialysis machine. The three most commonly used are Arteriovenous (AV) Fistula, Arteriovenous graft or a permanent catheter in the jugular vein or femoral vein. Each of these involve a minor surgical procedure. The most preferred access is an AV fistula. This is created by surgically joining an artery and a vein to allow connection to the dialysis machine. Prior to having this surgical procedure done, an ultrasound, known as AV mapping, will be done to assess which vessels are most suitable for the creation of the fistula. Once satisfactory blood vessels are identified, the minor surgical procedure is done under regional anaesthetic to connect the two vessels creating the vascular access point. Once created, the fistula takes around 4-6 weeks to fully mature before it can be used. This method is preferred because it has the lowest risk

of becoming infected and allows a bit more freedom for the patient in terms of daily activities.

If a patient has an AV mapping ultrasound which shows that the vessels are too small to have an AV fistula created, then an AV graft is offered. This is similar to a fistula, however, it uses a bit of synthetic material (graft) to make the arteriovenous connection. An AV graft is the next best option as it also has a fairly low infection rate.

Depending on how urgently dialysis is needed, a permanent catheter may be placed. The dialysis catheter is a long tube that is placed in the central veins, either jugular or femoral, with two access ports left outside the body, on the chest or thigh respectively. These are usually used until a better option (fistula or graft) can be obtained. Of the three options, the permanent catheter requires the most care as it can easily become infected and should be kept as clean and dry as possible. As scary as it may seem at first, haemodialysis is in fact a life-saving process and most patients go on to have a reasonably good quality of life. Accepting and committing to it is a big decision but with the continued support of family and friends, the nephrology team and the medical social worker, it becomes a bit easier.

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Heat Illness

by Dr. Damion Basdeo



Heat Illness consists of a range of conditions relating to prolonged exposure to hot weather conditions. A prolonged heated period for two or more days in a particular area can be considered a heat wave. There are groups most prone to heat illness. These include the elderly, infants and children, those with comorbidities, outdoor workers, pregnant women and the socially displaced.

The actual heat experienced by the human body is the heat index. This is dependent on the humidity (moisture in the atmosphere) and the air temperature. Therefore, a temperature in a humid environment feels more heated to the body compared to a less humid environment.

The mild forms of heat illness include heat rash (which can occur from blockage of sweat glands) and heat cramps (where muscle spasm or *“cramp”* as a result of excessive sweating and loss of salts). Moderate heat illness can lead to heat syncope or fainting as a result of prolong exposure to heat. This occurs especially when

persons stand for long periods of time in the heat. The blood vessels in the body comes up to the surface and widens under the skin to lose heat and results in *“pooling”* of the blood. This can result in mild swelling of the legs and cause decrease blood flow to the brain which can lead to dizziness and fainting. It is important to rule out other conditions that can lead to fainting. These include disease of the heart and blockage of blood vessels which carry blood to the brain. The medical professional must investigate and rule out other causes for the dizziness and fainting.

If the body heats up further and more body water or blood volume is lost, then this can lead to heat exhaustion. Heat exhaustion is a state in which the body is now unable to maintain its baseline temperature and leads to extreme weakness, headaches, fatigue and fainting. The temperature of the body may be normal or slightly above normal. If the body is not cooled or hydrated the person can progress to the worst form of heat illness which is a heat stroke.

The individual now becomes confused and consciousness may decrease. The organs of the body can become dysfunctional at this stage and can be life threatening. The body is now unable to maintain the baseline temperature and there can be an increase in body temperature to more than 40°C. This can damage the organs in the body and result in a medical emergency.

There are several ways to prevent heat illness from developing. One of the easiest ways is hydration. Fluid intake, especially water is very important to prevent heat illness. Fluids such as alcohol, caffeine and sweetened drinks may dehydrate the body. Therefore, hydration with water is very important.

Wearing loose clothing can assist in keeping the body cool. Sweating and evaporation of sweat also cools the body. If the atmosphere is very humid or there is a lot of moisture in the atmosphere, less evaporation takes place and this leads to sweat staying on the skin and not being able to evaporate and cool the body. A fan or breezy area can assist with the evaporation and cooling of the body.

Another way to prevent heat illness is to stay out of the extreme heat during the peak or hottest hours of the day (10:00 a.m. to 4:00 p.m.). If you are unable to stay out of the heat, take a break and hydrate. To keep the body cool shower with cool water, stay in an air conditioned space or in front of a fan or in a breezy area.

The community also plays an important role to create a cool environment. They can create green spaces, plant trees and look out for each other. We must ensure we

recognise the signs for heat illness, especially among the most vulnerable. If buildings are constructed to allow breeze to flow through and include green spaces then the environment is expected to be cooler than a densely packed concrete jungle.

Furthermore, the heating up of the planet has been sped up by human activity. This particularly refers to the emission of greenhouse gases into the atmosphere as a result of increased industrialization releasing excessive amounts of carbon dioxide into the atmosphere. Some of the ways that can help us reduce our carbon footprint include recycling, reducing food waste, unplugging lights and appliances when not in use and reducing plastic etc.

Our actions and inactions have consequences. It is now up to us to be a part of the solution: recycle, plant trees, stop destroying the environment, advocate for more environmentally friendly practices for example using renewable energy instead of fossil fuel to obtain electricity and make products. We now have the responsibility to help our planet earth to recover. This opportunity may not return and our offspring and generations to come may suffer from the worsening effect of global warming.



The Silent Killer

by Dr. Jaya Jaggernath



Type 2 diabetes or sugar as we commonly call it is one of the most common non-communicable diseases that you will come across in Trinidad. Type 2 diabetes is mainly the result of two problems: Cells in muscle, fat and the liver become resistant to insulin and as a result, the cells don't take in enough sugar. The pancreas can't make enough insulin to keep blood sugar levels within a healthy range. This preventable disease has dominated our society and lead to a huge burden on our healthcare system.

The question that comes to mind as we discuss this topic is- Why? Why is it that a preventable disease is causing so many health issues amongst our population? We have a culture that revolves around unhealthy eating habits and a sedentary lifestyle. The doubles and soft drink for breakfast, the typical Sunday lunch being macaroni pie covered with cheese, baked potatoes covered with cheese and we mix that with a 2L coke. These are just a few examples on a long list of norms we have in Trinidad and Tobago that leads to diabetes and the many complications associated with this illness. These complications include but are not limited to chronic kidney disease, heart disease and the diabetic foot.

The question we are now left with is, how does one prevent this disease? As we ponder upon this question we begin to realize that the answer is not quite that simple. Yes we can say diet and exercise but what exactly do we mean by that? Exercise, though it may seem an inconvenience, it does not need to be. We can incorporate it into our daily lives by putting aside 30 minutes from our day to engage in any activity that will lead to a sustained increased heart rate. We can do little things like taking the stairs instead of the elevator or walking small distances instead of driving.

As for diet changes we can start by avoiding sugary drinks like coca-cola and anything that is made from flour. We can strive to have a more balanced diet and eat more greens vegetables and fruits. By incorporating these small changes into our everyday lifestyle and developing better habits we can prevent diabetes and lead a healthier lifestyle. As a society we can make a greater effort in detecting Diabetes Mellitus (DM) earlier by actively screening for it. We can each take the individual responsibility of checking ourselves to prevent the long term complications. Early detection of this silent killer will lead to early management and a better outcome for all those involved. In conclusion, this disease is preventable and can be treated to avoid the deadly saga that inevitably follows the poor management and late detection of this disease.

The Technological Takeover

by Vandana Persad-Seedial

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Most aspects of our lives have been transformed by technology, from our education to our healthcare systems. With benefits ranging from ease of accessibility to information, to instantaneous communication from anywhere in the world, there is no doubt that it has indeed made our lives easier. However, as with most advancements, some downfalls always follow.

• **Dry Eye Syndrome:**

Dry eyes can occur when tear production and drainage are not in balance. People with dry eyes either do not produce enough tears or their tears are of a poor quality:

Inadequate production of tears.

Tears are produced by several glands in and around the eyelids. Tear production tends to diminish with age, with various medical conditions or as a side effect of certain medicines. Environmental conditions, such as wind and dry climates, can also decrease tear volume due to increased tear evaporation. When the normal amount of tear production decreases or tears evaporate too quickly from the eyes, symptoms of dry eye can develop.

Poor quality of tears.

Tears are made up of three layers: oil, water, and mucus. Each component protects and nourishes the front surface of the eye.

If the tears evaporate too quickly or do not spread evenly over the cornea due to deficiencies with any of the three tear layers, dry eye symptoms can develop. Dry eyes can develop due to several reasons, including:

- **Age.** Dry eyes are a part of the natural aging process. Many people over age 65 experience some symptoms of dry eyes.
- **Gender.** Women are more likely to develop dry eyes due to hormonal changes caused by pregnancy the use of oral contraceptives and menopause.
- **Medications.** Certain medicines, including antihistamines, decongestants, blood pressure medications, and antidepressants, can reduce tear production.
- **Medical conditions.** People with rheumatoid arthritis, diabetes and thyroid problems are more likely to have symptoms of dry eyes.
- **Environmental conditions.** Exposure to smoke, wind and dry climates can increase tear evaporation resulting in dry eye symptoms.

Other factors. Long-term use of contact lenses can be a factor in the development of dry eyes.

Stubborn Symptoms

People with dry eyes may experience irritated, gritty, itchy or burning eyes; a feeling of something in their eyes; excess watering and blurred vision. Symptoms include:

- Redness
- Stinging, scratching, or burning sensations
- Light sensitivity
- Watery eyes
- Stringy mucus near the eye
- Blurry vision

Managing The Technological World

With the constant evolution of technology, it is evident that the use of digital devices will remain pertinent for a very long time. Here are some active ways to combat dry eye syndrome:

Screen breaks. Take frequent small breaks. Look 20 feet away, for 20 seconds every 20 minutes.

Screen Time & Circadian Rhythm.

There is ongoing research in the area of impact of blue light from LED screens on our eye health and circadian rhythm. Blue light before bed may interfere with sleep. At present, it is generally recommended that we limit screen time to 1 to 2 hours before bed. If this is not possible, you can try putting your device in nighttime mode or download software that limits the amount of blue light emitted from your device. Please note that ongoing research is being conducted on the effectiveness of this and therefore the best advice is to limit screen time before bed.

Total Screen Time. Try to make a point of planning non-screen time activities.

Healthcare Provider. Follow-up with your healthcare provider, as needed.

With these tips, we should be able to reduce the symptoms of dry eyes and its effect on our daily lives, as technology continues to evolve.



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"Caring is the Key"