# Diabetes Discourse

**Volume 15, Issue 1** **November 2024**

*Quarterly Newsletter of the Bovell Cancer Diabetes Foundation (BCDF)*

***This Free Newsletter is a Vital Resource for Diabetes Prevention and for anyone Living with Diabetes***

**Our Vision**

- Enriching lives, one person at a time

**Our Mission**

- To enrich the lives of people living with or at risk for cancer and diabetes by providing financial resources, support, preventive and management education.

**BCDF Activities Include:**

- Modest grants to individuals/families affected by cancer or diabetes to enhance their quality of life
- Prevention and management education, and small-group workshops
- Advocacy and referrals to resources for individuals/families affected by cancer or diabetes
- Writing grant proposals and fundraising

BCDF relies on donations to carry out its mission. We are an incorporated, charitable Foundation in the Republic of Trinidad and Tobago. BCDF functions with volunteers only and no paid staff.

To contact us with comments, questions or articles, phone 868) 667-2576; WhatsApp 334.590.3073 or e-mail: bovellcancerdiabetesfoundation@gmail.com; http://www.bovellcancerdiabetesfoundation.org

***Disclaimer:*** *This newsletter is meant to educate and inform. It is not to be used as medical advice. Please consult your doctor for medical advice.*

## Inside This Issue




**Dear Volunteers & Supporters**:

Thank you for your incredible support and dedication at the BCDF Diabetes in the Limelight Jamboree held 8th November 2024 as part of the World Diabetes Day campaign! Your energy, kindness, and hard work helped make the event a huge success. We truly appreciate the time and effort you gave to create a memorable experience for all. Together, we are making a meaningful difference in the lives of those impacted by diabetes. We would also like to thank our supporters, Lesville Guest House, Blue Waters, Andy's Expert Tailoring and all the individuals who contributed to the event. And, of course the attendees, without whom the event could not happen.

With heartfelt gratitude,

Board of Directors, BCDF.

School Children headed to their Booth

Blood Glucose, Blood Pressure Testing

$A_1c$ & Cholesterol Testing

Children's Booth (back); Nurses' Booth (front)

Look for more pics from:

Weight Clinic

Footcare Booth in our next Issue…

Registration Booth




Nutrition Education Booth

Children's Booth

Tensile Strength Testing

Stroke Prevention Booth

Stroke Prevention Booth

Nutrition Education

## 🌟 Join Us in 2025 for a Meaningful Volunteer Experience! 🌟

The Bovell Cancer Diabetes Foundation warmly invites volunteers from across the globe to be part of our 17th Annual Diabetes in the Limelight Jamboree on Friday, 7th November 2025 at the Cyd Gray Sporting Complex, Roxborough, Tobago. Your time and support will help us raise awareness, promote healthy living, and bring joy to those impacted by or at risk for diabetes. Together, we can make a lasting difference! Come be part of this unforgettable event and help us shine a light on **hope, health, and community.**

We cannot wait to welcome you to beautiful Tobago! 💙 Email us:

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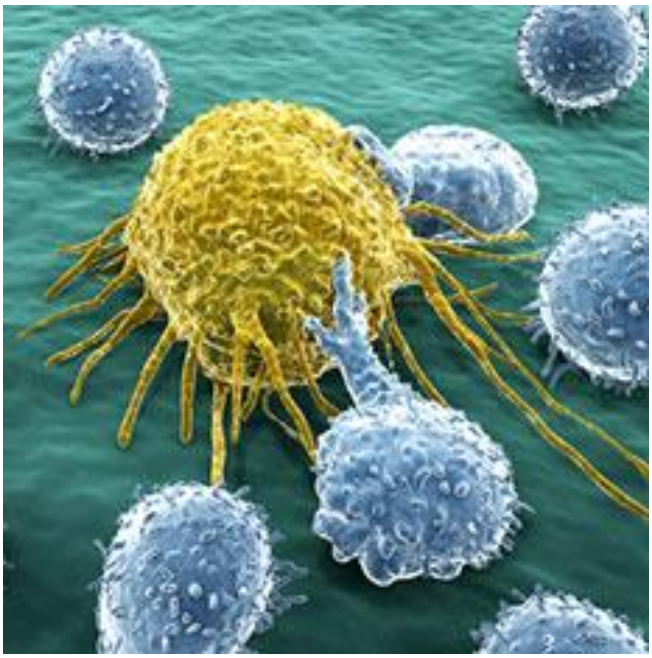
www.bovellcancerdiabetesfoundation.org

Find us on Facebook & Twitter

# DIABETES AND CANCER



Diabetes and cancer – how are they connected? The interaction between diabetes and cancer is highly complex and difficult to decipher. Both chronic diseases are influenced by a wide range of factors and can have very different characteristics. **However, one thing appears to be certain: diabetes can promote the pathological growth of certain types of cells in the body and increase the risk of developing cancer.**

**Good to know:**
**Numerous studies point to a connection between type 2 diabetes and various types of cancer. However, the exact mechanisms are still not understood.**

A 16-year-long study with more than 1 million participants shows that various types of cancer were more common in people with diabetes than people with a healthy metabolism. The types of diabetes or the age at the time of diagnosis was not surveyed as part of this study. The majority of studies reporting on the connection between diabetes and cancer do not make a distinction between the different types of diabetes. Because type 2 diabetes (T2) is significantly more common than type 1 diabetes, it can be assumed that the findings predominantly apply to T2.

However, there is an increasing number of studies suggesting that people with type 1 diabetes are also more likely to develop cancer. A key factor could be the daily insulin dose: A large U.S. population study showed that people who are required to inject at least 0.8 units of insulin per kilogram of body weight daily were more likely to develop cancer than insulin-dependent people with lower insulin doses. However, whether insulin could actually be a risk factor for cancer still needs further research.

## What types of cancer are more common in diabetes?

As is the case in the population in general, some types of cancer are also more common in people with diabetes. These include colorectal cancer, liver cancer, breast cancer and pancreatic cancer, but also rarer types of cancer such as stomach cancer. For example, the risk of colorectal cancer in people with diabetes onset before age 50 is about the same as in families with a high incidence of colorectal cancer.

Regardless of gender, the following types of cancer are newly diagnosed more frequently in people with type 1 diabetes:

- ✓ Liver cancer
- ✓ Kidney cancer
- ✓ Stomach cancer
- ✓ Thyroid cancer
- ✓ Squamous cell cancer
- Pancreatic cancer
- Esophageal cancer
- Lung cancer
- Leukemia

Compared with the general population, however, it is interesting that the mortality after incident cancer in people with type 1 diabetes is not higher than that in people without diabetes. Studies show that breast cancer is even less common in people with type 1 diabetes than in the general population. However, this does not mean that type 1 diabetes protects against breast cancer. After all, the data on the risk of cancer in diabetes can only indicate that there is an interrelationship between the two diseases, but not that diabetes causes cancer. Some types of cancer occur in people with type 2 diabetes as well as in people with type 1 diabetes. These include:

- ✓ Liver cancer Pancreatic cancer
- ✓ Kidney cancer Lung cancer
- ✓ Leukemia

However, there are still other types of cancer that are newly diagnosed more often in people with type 2 diabetes than in people without diabetes. These are:

- ✓ Tumors of the bile ducts
- ✓ Gallbladder cancer
- ✓ Gastrointestinal cancers
- ✓ Bladder cancer
- ✓ Ovarian cancer
- ✓ Uterine (endometrial) cancer
- ✓ Cancers of the oral cavity
- ✓ Gliomas (tumors of the central nervous system, predominantly brain tumors)
- ✓ Melanoma (skin cancer)

In general, women with diabetes mellitus suffer from the following types of cancer more frequently than women without diabetes:

- ✓ Colorectal cancer
- ✓ Pancreatic cancer

Men with diabetes mellitus suffer from the following types of cancer more frequently than men without diabetes:

- ✓ Colorectal cancer
- ✓ Pancreatic cancer
- ✓ Liver cancer
- ✓ Non-Hodgkin lymphomas, malignant diseases of the lymphatic tissue (in type 1 diabetes)

However, the interrelationships between diabetes and cancer are by no means a one-way street: Some cancers (for example, pancreatic cancer) can also trigger the onset of diabetes. In addition, certain types of cancer medication can disrupt the sugar metabolism.

## What factors increase the risk of cancer?

Cancer risk can be increased by a wide range of different factors. These include known risk factors such as:

- Certain genetic changes
- Smoking
- Overweight and obesity
- Unhealthy diet
- Lack of physical activity
- Certain infections, for example by the human papillomavirus (HPV)
- Alcohol consumption
- Environmental toxins
- Chronic inflammations

Overweight/obesity commonly accompanies type 2 diabetes. It is now known that fatty tissue releases hormones that promote tumor growth. Obesity is a chronic inflammatory state. The high number of inflammatory cells in the fatty tissue release inflammation-promoting messenger substances which may promote the onset of cancer.

Drugs can also increase the risk of developing cancer. Certain diabetes drugs are also suspected to increase the risk of developing cancer. These include GLP-1 receptor agonists and DPP-4 inhibitors, as well as insulin and insulin analogs. Sulfonylureas are also suspected of being a potential cause of cancer. However, whether diabetes medications are really involved in the onset of cancer is, in part, highly controversial in the scientific community: The studies to date have come to very different findings. For supplied insulin, most studies showed an interrelationship between the daily insulin dose and cancer incidence: People who needed a high daily dose of insulin had a higher risk of developing cancer than people who needed little or no insulin. However, the studies did not consider other possible risk factors, so it is unclear to what extent the increased cancer risk must actually be attributed to the insulin dispensed. Other blood sugar-lowering medications (oral antidiabetics, or OADs), on the other hand, are thought to have a positive effect on cancer. Treatment with metformin, for example, appears to reduce the incidence of new cases and mortality rate of cancer. So far, however, all that can be said is that cancer risk may decrease with metformin. The extent to which metformin can actually prevent cancer is still being researched. The effect on cancer risk also remains controversial among scientists. It will probably take several years before it can be clarified whether certain diabetes medications

increase the risk of cancer. The development of most types of cancer generally takes longer than the time these medications have been on the market and used in diabetes therapy. If such a risk does exist, the effects would only become evident later. In addition to medications, metabolism in particular appears to increase the risk of cancer: If blood sugar levels are too high, the risk of cancer can increase. This also applies to prediabetes. In particular, the risk of colorectal cancer is increased in people with prediabetes compared with persons of the same age having a healthy metabolism.

## Can cancer trigger the onset of diabetes?

Cancer diagnosis represents a severe break in the life of the persons affected. Such a diagnosis often requires surgery, chemotherapy, radiation, immunotherapy, or other medical treatments that can cause significant changes in the body. This can also result in diabetes. In most cases, however, it is not the cancer itself that is responsible for diabetes, but its treatment. For pancreatic cancer and other diseases of the pancreas, part or all of the pancreas is removed, if possible, or there is a loss of function due to the disease. This leads to a relative or absolute insulin deficiency, resulting in the development of diabetes. However, chemotherapy may also be responsible for triggering the onset of diabetes. This does not mean that every person who receives chemotherapy will develop diabetes. Rather, only individual chemotherapies are known to increase the risk of developing diabetes. These include, for example, interferonalfa, tegafur-uracil (UFT), and paclitaxel. Glucocorticoids or other cortisone-like preparations can also raise blood sugar levels and promote diabetes in the long term – whether or not cancer is present. For this reason, glucocorticoids are always used for a short time only and in the lowest possible doses, with blood sugar levels being checked regularly. Targeted cancer therapies, such as antibody therapies or immunotherapies such as checkpoint inhibitors, can also increase the risk of developing diabetes. The reason why this applies to all of these therapies can only be explained to a limited extent so far. It is important that blood sugar levels are checked regularly during and after cancer therapy. Especially during and in the first weeks to months after therapy with a checkpoint inhibitor, type 1 diabetes may very rapidly develop. Therefore, possible warning signs of type 1 diabetes should be discussed with your doctor in advance. If you detect signs of type 1 diabetes during or after therapy, contact your doctor immediately.

## How can cancer be prevented?

A healthy lifestyle is important for everyone – with or without diabetes. Poor diet, lack of physical activity, and obesity are not only detrimental to diabetes treatment but also increase the risk of other diseases, such as cancer and cardiovascular complications. In contrast, healthy lifestyle with regular physical activity and a healthy diet has preventive properties and also improves the metabolism.

**Good to know:**

- **People with diabetes should regularly visit their doctor for check-ups and follow a healthy lifestyle.**
- **In addition, people with diabetes should regularly attend cancer screenings, just like persons with a healthy metabolism do. The earlier a tumor is detected, the better the chance of successful treatment.**

## Diabetes and cancer: What happens inside the body cells?

How exactly diabetes contributes to the development of tumors is not yet clear. Several factors are under observation. It is suspected that high insulin levels (hyperinsulinemia) and elevated blood sugar levels (hyperglycemia) could be responsible. The body elevates the insulin levels in the early stages of type 2 diabetes to counteract the decreasing effects of the hormone (insulin resistance of the body cells). Insulin not only regulates the sugar levels in the body but also controls cell growth

and cell division. Therefore, long-term elevation of insulin levels may stimulate the growth of preexisting tumor cells. Alongside insulin, insulin-like growth factor 1 is involved in the sugar and fat metabolism processes. It further stimulates cell division. In addition to insulin, elevated blood sugar levels also play an important role. High blood sugar levels are associated with a higher risk of intestinal, liver, stomach, lung, and pancreatic cancers. This might possibly be attributed to what is called the "Warburg effect". This effect describes an altered glucose metabolism in cancer cells, which allows tumors to grow rapidly. In addition, high blood sugar levels cause increased binding of sugar to various metabolites, resulting in advanced glycation end products (AGEs). These in turn increase oxidative stress in the body and have a pro-inflammatory effect. Type 2 diabetes in particular is often associated with obesity. In the case of obesity, increased levels of certain messenger substances, known as adipokines, are released by the fatty tissue. These messenger substances, including the well-known leptin, do not only regulate appetite and metabolism but can also be directly involved in the cell division and cell growth processes. In addition, obesity causes more hormones such as estrogen to be released from the fat cells. Estrogen is a risk factor for breast cancer. At the same time, other hormones and messenger substances get out of balance more frequently in the case of obesity. These include adipokines and estrogen as well as cytokines. They are normally secreted more often to counteract infections, inflammations and tumors, but can also be elevated in obesity and have a pro-inflammatory effect.

## Diabetes and cancer: What research approaches are there?

The coming years will be decisively influenced by research to try and decipher or disprove the possible connections between cancer and diabetes. Is one disease caused by the other or do both diseases simply have the same risk factors? Only when it has been definitively determined which direction the influence of each mechanisms takes can researchers begin to develop suitable treatments. Therapeutic options are also being researched:

For example, researchers are investigating if bariatric surgery used to treat severe obesity (e.g., by reducing the size of the stomach) also inhibits the growth of tumors. As is already known, bariatric surgery can have a positive effect on type 2 diabetes and diabetes-related secondary diseases. A relatively new approach is interval fasting which has shown very positive effects on the metabolism. Initial findings show that it can protect against tumor growth and improve the effectiveness of chemotherapy drugs. Research also continues into exactly how overweight and obesity affect diabetes and contribute to the development of T2. While it is known that overweight and obesity promote prediabetes and T2, it is often not possible to find out why some people do not develop T2 despite being overweight for decades.

*Reprinted from: Prof. Dr. Stephan Herzig. Available at: https://www.diabinfo.de/en/living-with-diabetes/complications/cancer.html*

## Local Fruit of the Quarter: Sapodilla

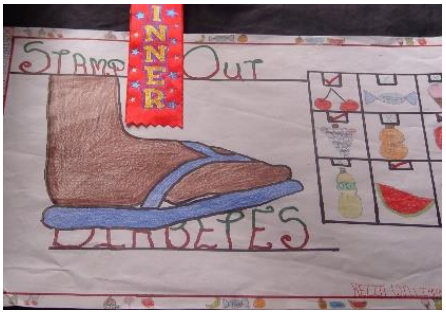
Sapodilla is packed with a variety of vitamins and minerals that are essential for good health. Sapodilla is a good source of potassium. Potassium helps lower your blood pressure, but most people do not eat enough potassium. The daily amount recommended is 4,700 milligrams to 5,000 milligrams of potassium.

# BCDF Yearly Schedule of Events

## Save the Dates

| | | |
|---|---|---|
| **November 2024** | | |
| 08/11/24 | Diabetes in the Limelight Jamboree<br>Complimentary Foot Care - *"So in Love with my Feet" Project* | Event |
| 30/11/24 | Diabetes Discourse | Writing |
| **December 2024** | | |
| 01/12-31/25 | Life of a Child Initiative – patterned after the International Diabetes Federation's program, this project meets the needs (testing strips, assistance and support for doctors' visits, monitoring and education) of a child with diabetes. | Event |
| **January 2025** | | |
| 02/01/25 | Life of a Child Initiative | Event |
| 15/01/25 | First Quarter Funding | Event |
| **February 2025** | | |
| 01/02/25 | Diabetes Discourse | Writing |
| 15/02/25 | Second Quarter Funding | Event |
| **March 2025** | | |
| 01/03/25 | Life of a Child Initiative<br>So In Love with my Feet | Event |
| 01/03/25 | Project | Event |
| **April 2025** | | |
| 26/04/25 | Teachers' Workshop<br>Breakfast Morning & Diabetes Awareness | Event |
| **May 2025** | | |
| 01/05/25-31/05 | Small Group Workshops | Event |
| | Diabetes Discourse Newsletter | Writing |
| | So in Love with my Feet Project | Event |
| 15/03/25 | Third Quarter Funding | Event |
| **June 2025** | | |
| 01/06/-30/25 | Life of a Child Initiative<br>Small Group Workshops<br>*"So in Love with my Feet" Project* | Event |

| | | |
|---|---|---|
| **July-August 2025** | | |
| | *"So in Love with my Feet Project"* | Event |
| | BCDF Retreat/Professional Development | Event |
| | Proposal Writing | Writing |
| | Diabetes Discourse | Writing |
| | Virtual Cancer Workshop | Event |
| | Children & Teen Hangout | Event |
| **September October 2025** | | |
| | Primary School World Diabetes Day Poster Competition<br>Poster design is an expression of creativity and technical aptitude. BCDF presents its annual primary school poster competition for the occasion of World Diabetes Day 2025, | Event |
| | Video Monologue Contest | |
| | Fourth Quarter Funding | |
| **November 2025** | | |
| | Diabetes Discourse (Quarterly Newsletter) | Writing & Event |
| | 07/11/25 - 17th Diabetes in the Limelight Jamboree (Roxborough, Tobago) | |
| | Cooking Contest | |




# Make a Donation to BCDF

## Help us stamp out Diabetes