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Before we look at the difference between diabetes 1 and diabetes 2, let's firstly look at diabetes in general: [Diabetes](#), termed [diabetes mellitus](#), is a metabolism disorder. Metabolism refers to how the body uses and digests food for growth and energy. Most of the food we consume is broken down into glucose. Glucose is a type of sugar in the blood - it is the main source of food for our bodies (our cells). When food is digested it eventually enters our bloodstream in the form of glucose. Cells utilize the glucose for growth and energy. However, without the help of insulin, the glucose cannot enter our cells. Insulin, a hormone, is produced in the pancreas. After consuming food the pancreas automatically releases an appropriate quantity of insulin to transport the blood glucose into the cells, thus lowering blood sugar levels.

If you have diabetes, the amount of blood glucose is too high - a condition called hyperglycemia. This happens for one of two main reasons:

- The body is producing no insulin - this is Diabetes Type 1
- The cells do not respond correctly to the insulin - this is Diabetes Type 2

Consequently, excessive amounts of glucose accumulate in the blood. This blood glucose overload is eventually passed out of the body in urine. Even though the blood has plenty of insulin, the cells of a person with diabetes are not getting their crucial energy and growth requirements.

What is type 1 diabetes?

In Type 1 Diabetes, the person's own body has destroyed the insulin-producing beta cells in the pancreas. When your own body destroys good stuff in your body it has what is called an

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Diabetes

What is Diabetes?

Diabetes (diabetes mellitus) is classed as a metabolism disorder. Metabolism refers to the way our bodies use digested food for energy and growth. Most of what we eat is broken down into glucose. Glucose is a form of sugar in the blood... [Read more...](#)



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autoimmune disease. Diabetes Type 1 is known as an autoimmune disease.

Quite simply - a person with Diabetes Type 1 does not produce insulin. In the majority of cases this type of diabetes appears before the patient is 40 years old. That is why this type of diabetes is also known as *Juvenile Diabetes* or *Childhood Diabetes*. Diabetes Type 1 onset can appear after the age of 40, but it is extremely rare. About 15 per cent of all diabetes patients have Type 1.

People with Type 1 have to take insulin regularly in order to stay alive.

Diabetes Type 1 is not preventable, it is **in no way the result of a person's lifestyle. Whether a person is fat, thin, fit or unfit, makes no difference to his or her risk of developing Type 1.** In the case of Diabetes Type 2, much of its onset is the result of bodyweight, fitness and lifestyle. The vast majority of people who develop Type 1 are not overweight, and are otherwise healthy during onset. You cannot reverse or prevent Type 1 by doing lots of exercise or eating carefully. Quite simply, **the Diabetes Type 1 patient has lost his/her beta cells.** The beta cells are in the pancreas; they produce insulin.

What is type 2 diabetes?

Person with Diabetes Type 2 has one of two problems, and sometimes both:

1. Not enough insulin is being produced.
2. The insulin is not working properly - this is known as *insulin resistance*.

The vast majority of patients who develop Type 2 did so because they were overweight and unfit, and had been overweight and unfit for some time. This type of diabetes tends to appear later on in life. However, there have been more and more cases of people in their 20s developing Type 2, but it is still relatively uncommon.

Approximately 85% of all diabetes patients have Type 2.

Insulin resistance

The body produces insulin, but its insulin sensitivity is undermined and does not work as it should do - glucose is not entering the body's cells properly. Consequently, blood sugar levels rise, and the cells are not getting their required nutrients for energy and growth.

The problem is with the cells - they are not responding to insulin like they used to. Experts are not sure what exactly is happening when cells stop responding well to insulin. Below is a simple explanation of why insulin resistance happens:

- **Cells build up insulin resistance anyway**

Each time your cells are exposed to insulin they build up a bit of resistance.

- **Lots of food triggers more insulin production**

If a person is eating a lot he will be producing more insulin than somebody who doesn't.

- **Too much insulin is toxic for the cells**

If the exposure to insulin is high the cell will try to protect itself from intoxication - it will down-regulate its receptor activity and the number of receptors so that it does not have to be subjected to all that stimuli all the time.

- **Frequent high insulin speeds up the process**

If the cell's exposure to high insulin is frequent the insulin resistance will grow faster.

- **The pancreas puts out more insulin**

If the insulin is not doing its job properly the pancreas will put out more of it - a vicious circle.

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The insulin resistance will reach a point in which the amount of insulin produced by the pancreas is not enough to make up for the cells lower response. At this point the person will have to take additional insulin.

Lack of physical activity, being overweight, and some genetic factors make it much more likely that the cells build up insulin resistance more quickly. It is important to remember that *insulin resistance is not the insulin not responding properly, it is the cells not responding properly to insulin.*

Unfortunately, insulin resistance can lock a patient into another vicious circle, because insulin resistance itself promotes weight gain. So, if people are insulin resistant because they are overweight, the excess pounds are harder to get rid of because of it.

According to Medilexicon's [medical dictionary](#), insulin resistance is a "diminished effectiveness of insulin in lowering plasma glucose levels, arbitrarily defined as a daily requirement of at least 200 units of insulin to prevent hyperglycemia or ketosis; usually due to binding of insulin or insulin receptor sites by antibodies; associated with obesity, ketoacidosis, and infection."

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Written by Christian Nordqvist

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Nice description

posted by **kcc** on 15 Aug 2012 at 10:58 am

It is very nicely explained about type-1and type-2 along with definition of diabetes mellitus and it's cause in a very plain language. Any layman can understand in a better way. I am a med/Lab. Technologist. I understand and know many reasons but still there is some confusion in some where in corner of mind that in many cases pp blood sugar value comes

very less than fasting. Even upto 50mg/dl.could you explain please?Thanks.

| post followup | alert a moderator |

Thanks so much!

posted by **molly** on 11 Aug 2012 at 2:46 pm

Thank you...this helped me break down the basics to study for a bio exam. Cheers!

| post followup | alert a moderator |

Easy to understand

posted by **Michael** on 19 Jul 2012 at 2:31 am

I understood very clearly about type 1 and type 2 diabetics.

| post followup | alert a moderator |

are you sure you are type2 and not type1 diabetes?

posted by **Jenna** on 3 Jun 2012 at 6:25 am

I'm really sorry for all the 'grief' you've been put through with your diabetes, however, I believe you are correct - about the unexplained weight gain. Firstly, I need to ask: are you sure your type2 and not type1 diabetes? The reason I ask is that well, some doctors are just plain 'lazy' and make the assumption you are type2 - end of story, the 2nd reason is that I experienced similar conditions to you - unexplained weight (121-165 lbs in under 6 months), despite not changing my vegetables and very lean, no fat normal diet. I also experienced enormous fatigue. For many years I threw both high cholesterol and high Blood Glucose levels (never below 180 and more recently, around 230). The doctor was well aware of these facts, but kept saying cut the cholesterol - only thing is I don't eat the type of diet to support high cholesterol, or high glucose levels plus I don't and haven't had any alcohol in about 30 years. The doctor always ahed an 'answer' ...old age (at 44 years old), then it was 'menopause' despite the fact I breezed through this without so much as a single mood swing or hot flush! Then after I contracted Glandular Fever - he said 'sometimes people never recover from this'. In the meantime my kidney function became extremely impaired, as did my liver, and then finally after 2 years of numbness in hands and the onset of numbness in feet - he relinquished and ordered more blood work - the result definitely diabetes (and probably had been for years). When prescribed Metformin 1000mg x 2 per day - I became so ill I started looking for alternatives. He said 'persist' and that the 23 hours a day of nausea, stomach cramps, vomiting etc - would subside. It wasn't until a nurse educator saw my latest blood tests that I was booked immediately for an endocrinologist - I am type1, which means Metformin is the worst thing I could have taken...but I pretty much figured this out. Even with Metformin just eating a small serve of steamed fish and a cup of steamed veges would see my Blood Glucose levels shoot to 340+ and I'd stay well above for hours. I even peaked at this level without eating! Anyway, to cut my very long story short - I found an alternative to keep my blood glucose levels to around 86-108 without using insulin. I also lifted my kidney filtration rate from 60 to 87. Needless to say - I got very good advice from an alternative practitioner, and signed up with another doctor, and even though he isn't crazy about me not using insulin - he can't argue with the results. I wish you the best.

| post followup | alert a moderator |

good

posted by **M.LAKSHMANAN** on 18 May 2012 at 12:47 am

VERY GOOD

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easy as pie

posted by **donny** on 28 Feb 2012 at 8:08 am

i loved this it was easy to read. most people would have to be a scientist to read some articles but this one was simple. My ex-girlfriends mother has type 1 diabetes and it made it hard for her when we took a vacation. Her sugar levels would get low so we would have to stop to get ice cream or a hotdog. but i didnt mind because fast food is delicious!

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Very Well written

posted by **Swilson** on 9 Feb 2012 at 4:50 am

This was very clearly written for us lay people. Thanks!

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Good points

posted by **R Martin RN BSN/MSN** on 22 Jan 2012 at 1:50 pm

I am a Nursing Educator and A Diabetes Educator. I also have Type II. I have managed to watch my weight and have dropped about 115lbs so far. I teach my patients the basics of Diabetes and to watch their carb intake. I teach them having Diabetes is not all about sugar. It's about diet, exercise, monitoring your blood glucose, taking your medication and insulin, and following up with the doctor every three months. A lot of educators do not discuss Type I but I do in my class. Learning about Type I helps give my patients with Type I a lot of hope in their aftercare. Thank you for printing this. It is very useful, and I do use this kind of material to educate my patients....Thanks again.

R Martin RN BSN/MSN

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Can weight gain be a result of diabetes?

posted by **Barbara Klassen** on 19 Jan 2012 at 10:38 am

Around 2005 I suddenly started gaining weight. I went from 140 to 200+ within a couple of months. I have and still do eat mostly vegies. My meat consumption is generally chicken or fish. I have had intermittent problems with hypoglycemia for most of my life. When I asked the doctor why I was having the weight gain, he explained that as we get older our metabolism changes and our bodies tend to hold onto the foods we eat bal, bla bla. The weight gain continued and in 2007, I had a blood clot in my right leg that had to be stented. When my lab work came in prior to surgery, my blood sugar was over 400. The doctor told my family I was diabetic due to my obesity (by then I weighed 230). I am not a big eater and never have been and I have never been a big carb or sugar eater. Since then, I have had a heart attack in 2009 and 3 months later had to have a triple bypass. While in the hospital, they had me on an 1800 calorie diabetic/heart diet. I could not eat all that was served. More recently, I awoke during the night with a severe headache. I immediately took my blood sugar which was too high to register. I called EMS. My blood sugar was over 800. For supper (eaten at 5pm) I had a bowl of vegetable soup but the doctor told me there was no sense in lying about my eating habits. My son was at the hospital and sat outside ICU all night. He was furious with the doctor and told him I ate like a bird and there were times that had I not really watched what

time it was, I would forget to eat. The doc asked if he lived with me to see what and how I eat or perhaps I was lying to him also. Actually, I live with my son and his family.

Can weight gain be a result of diabetes? What am I doing wrong? I take 70 units of insulin daily and 1000mg of metformin twice daily.

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Not from 1 to 2 ?

posted by **Jouni** on 25 Nov 2011 at 3:20 am

Since in 1 the insulin production facility has been destroyed, the ones already having 1 can't get 2 but 2 can get 1 ?

| post followup | alert a moderator |

Media coverage about types of diabetes

posted by **Bruce** on 4 Oct 2011 at 3:15 am

I can see why type 2 diabetes gets much more news coverage than type 1. Type 1 diabetes is very difficult to predict outside of family history and you cannot avoid it with lifestyle changes. However 85% of people with a form of diabetes have type 2, and the number of people getting it is growing alarmingly. You can prevent type 2 diabetes with lifestyle changes and educating people about that is extremely important.

| post followup | alert a moderator |

Body Building with Type 1?

posted by **Amit** on 1 Oct 2011 at 12:34 pm

I am 17 year old man.I am Insulin Dependent Diabetic.my question is that can i gain mass and build my body like wrestlers ? body building requires big amount of protein intake. is it safe ? can anyone suggest and send me a diet chart for body building. ?

| post followup | alert a moderator |

Good Article, but . . .

posted by **Richard** on 15 Jun 2011 at 11:55 am

For the most part, the article was informative, but appeared to lightly touch on those with type II who aren't lazy and eat right. The article nearly labeled all type II as a fat slob.

I was thin most of my life . . . and I'm certain I had diabetes for 10 years before it was medically discovered. I think there should have been more emphasis placed on the exception of being insulin resistant. This sounds like a genetic deficiency - and has nothing to do with being lazy. Anytime some one says that are type II automatically they are labeled. This article at least had some explanation but fell short of reinforcing the point, that not all type II diabetics are overweight and a couch potato. It wasn't until they placed me on insulin that my weight gain became a problem. I also agree with some of the previous statements that there isn't enough information out there to educate the public about type one; there is a huge misconception that needs to be addressed as well. Thanks LRH

| post followup | alert a moderator |

can a person with type 1 also become type 2

posted by **Frank** on 15 Jun 2011 at 10:54 am

I have been type1 insulin dependant for 63 years & recently finding difficulty controlling my blood sugars

it has been suggested that i might be also becoming type 2 has anyone any experience

| post followup | alert a moderator |

Diabetes Opinion

posted by **Jim** on 5 Apr 2011 at 3:19 pm

I was just diagnosed with diabetes and found your site

very informative and worded so even i can understand,

thank you very much

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I am still learning

posted by **Cathy** on 30 Mar 2011 at 7:49 am

and I want to thank you for breaking down the difference between type 1 and 2 without getting too out there with it. As I am a new diabetic, I want to learn all I can about it so I may understand it better ! Thank you again

| post followup | alert a moderator |

Understandable and informative

posted by **perite** on 26 Feb 2011 at 10:02 pm

Helped me understand the difference. I'm studying Nursing and this is one of the best, simple articles I've read since researching diabetes.

Thank you!

| post followup | alert a moderator |

Good

posted by **Alice Cai** on 22 Feb 2011 at 10:56 pm

This webpage is excellent and gave lots of help towards my research!!

| post followup | alert a moderator |

Diabetes II

posted by **Sonia Andrade** on 9 Feb 2011 at 5:54 am

Great report. I just learned yesterday that I have Diabetes II. I started with Vizonza.

| post followup | alert a moderator |

Very easy

posted by **Shashank** on 2 Feb 2011 at 11:06 am

I loved the language of this article. Not many articles have this kind of layman's language. It was very helpful and definitely increased my knowledge.

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