## **The Lewis Health Series**

Health in the 21st century



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MB ChB, FRACP, FRCP (UK), MD(Otago)
Dr Monica Lewis Holistic General Practitioner
MB ChB

**Diabetes Mellitus** 





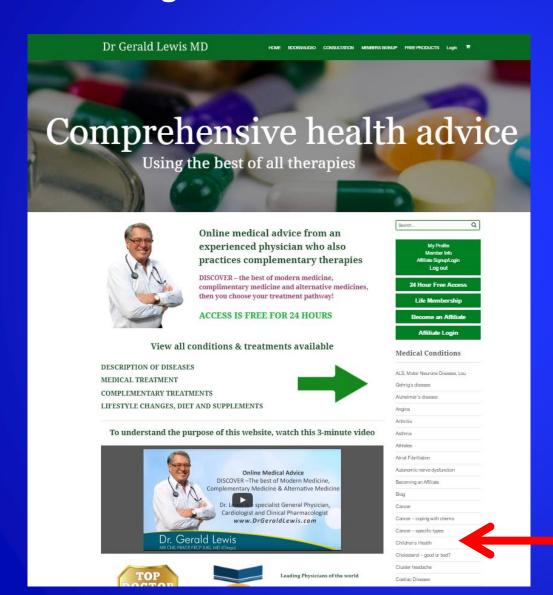
# **Health Talks**

- 1. Heart disease
- 2. Cancer
- 3. Stress
- 4. Immune diseases
- 5. Diabetes
- 6. Children's diseases
- 7. How supplements work
- 8. A healthy approach to sport
- 9. Anti Ageing





# The slides of this talk are on my website: www.drgeraldlewis.com



**Talks** 

Monica & I graduated in 1967:

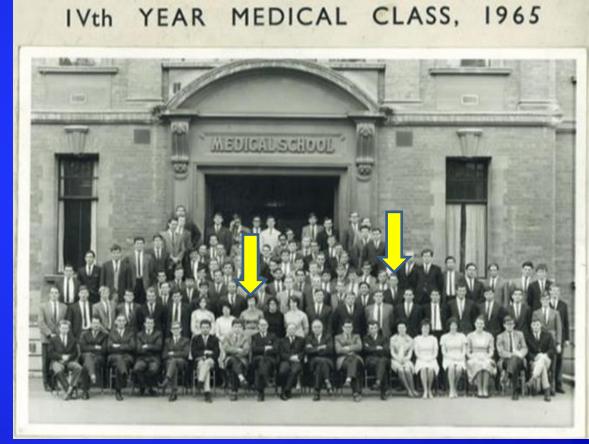
When we graduated main cause of



Heart attack
Stroke
Heart failure
Blindness
Kidney failure
Amputations

Was?????

**High Blood Pressure** 



Now it is DIABETES - & it is affecting our children

## **Diabetes Mellitus**

- What it is
- The size of the problem
- Why we get it
- What we can do about it
- How it can be eliminated not the way we are currently going



#### 1. Diabetes mellitus – why is it called mellitus

Diabetes – means a siphon or fountain

Diabetics pass a lot of urine

There are 2 conditions which makes people pass a lot of urine. Diseases in :

- 1. The pituitary gland.
- 2. The pancreas

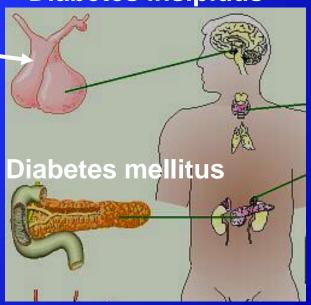
**Diabetes insipidus** 

**Diabetes mellitus – sweet** 









#### The two men who discovered the cause of diabetes

# Removed the pancreas from a dog



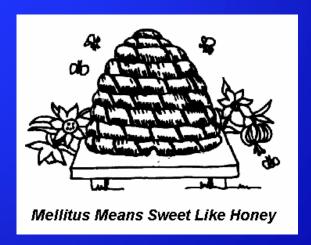


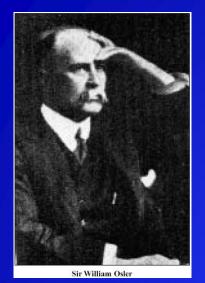




#### Pee smelt and TASTED like honey



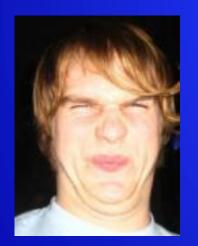




# Doctors used to diagnose diabetes mellitus by tasting the patient's urine!









Insipidus

Diabetes Mellitus



#### 2. The size of the problem:

## It is an epidemic –

- In the past 5 years its incidence has risen by
- In 1997 was the 10th cause of death,
- 2009 number 5
- 2019 it will be number 1





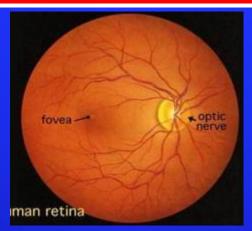
DESPITE the advertising, education, and money being spent on diabetes.....

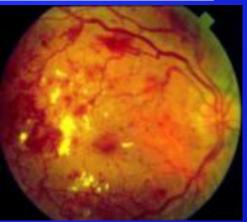
 The Centre for Disease Control (CDC) calculates that 1 in 3 of children born since 2000 will develop diabetes in their lifetime.

"It is hard to imagine these children living much beyond 40 or 50 years without developing diabetic complications that result in stroke, heart attack, blindness, or kidney disease"

They are talking about our children & grand children!







unless we do something about it

#### 3. How do we get diabetes?

## There are 2 types of diabetes –

Type 1 - Children & young adults



Type 2 – obesity "adult onset"

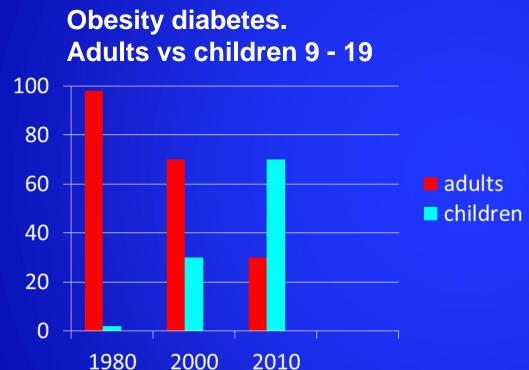


Used to be just fat adults
But NOW it is affecting
children and teens



### 3. How do we get diabetes?

## There are 2 types of diabetes –



Type 2 – obesity "adult onset"

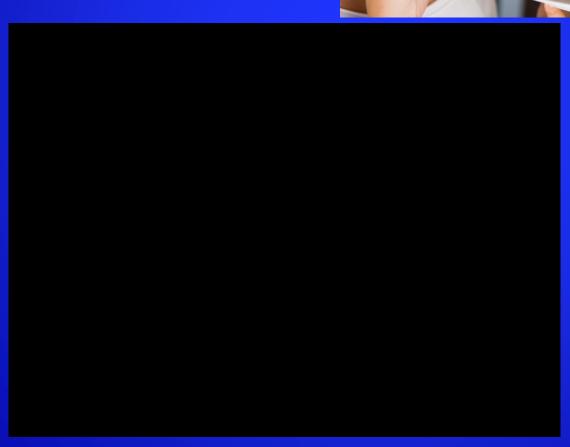


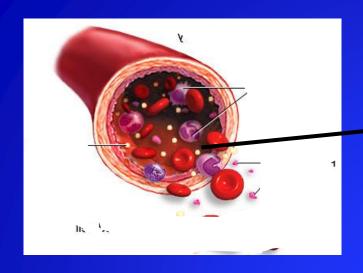
Used to be just fat adults
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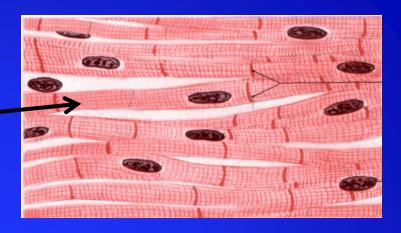
#### **Digestion** – how sugars get into our bodies

What happens after we eat a sugary food

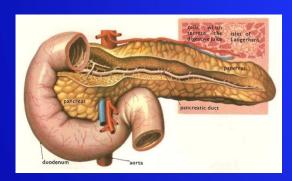




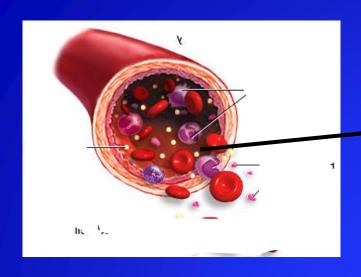


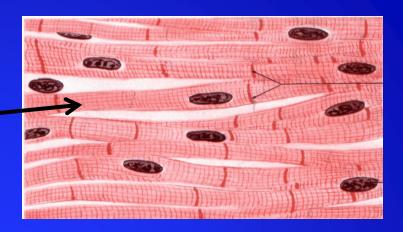


# Glucose cannot get into the body cells alone It requires insulin to get in

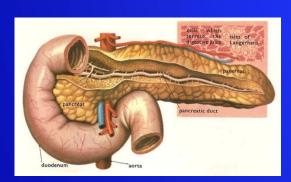


Insulin opens the glucose doors





# Glucose cannot get into the body cells alone It requires insulin to get in

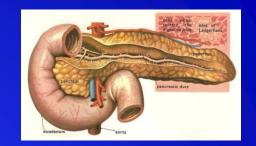


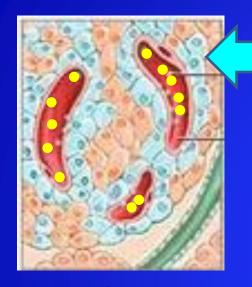
I

Insulin opens the glucose doors



#### **INSULIN** is made in the pancreas gland





**Islets of Langerhans** 

These detect the GLUCOSE in the blood as it goes past.

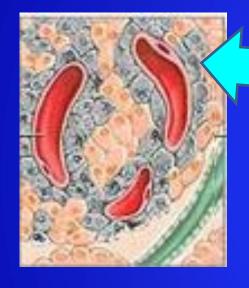
Creates the right amount of INSULIN to open the number of doors needed.

**GLUCOSE** stays at the right level

In diabetes this system goes wrong

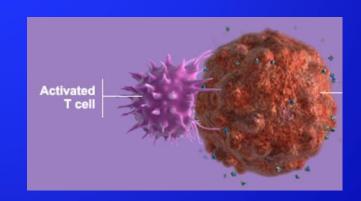
# Type 1 diabetes – juvenile diabetes The insulin secreting cells of the pancreas are destroyed



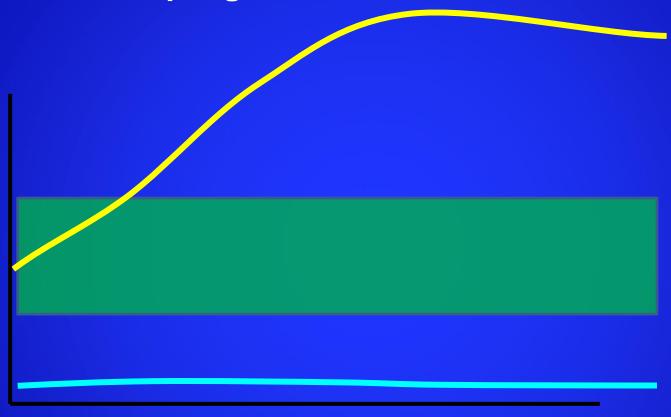


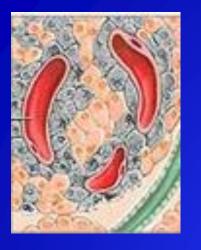
In Type 1 diabetes, immune cells think the Islet cells are invaders – and destroys them

Our immune system identifies invaders and kills them:



The pancreas makes NO INSULIN – and the blood sugar shoots up high:





#### What destroys the Islet cells?

- 1. A1 milk
- 2. Virus infections
- 3. Genetic inheritance
- 4. Leaky gut
- 5. ???????????



#### Could the milk our children drink cause diabetes?



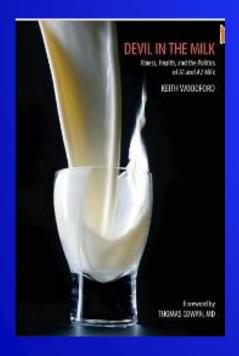




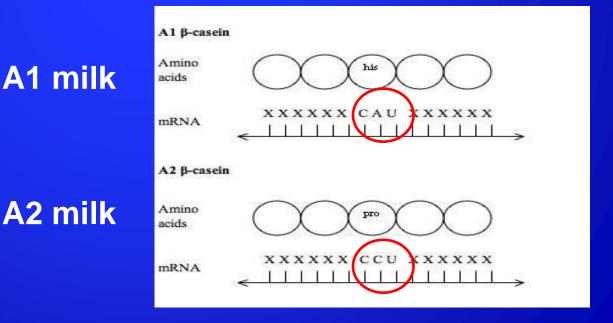
#### What destroys the Islet cells?

- 1. A1 milk
- 2. Virus infections
- 3. Genetic inheritance
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- 5. ???????????

#### Could the milk our children drink cause diabetes?



#### Some cows make A1 and others A2 milk



World wide there is an association between A1 milk consumption and type 1 diabetes -

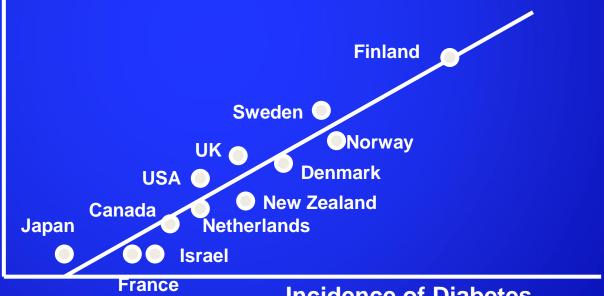






**Dahl – Jorgensen Diabetes care 1991** 

A1 Milk consumed



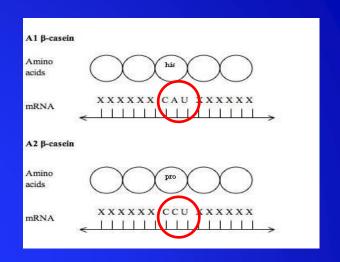
**Incidence of Diabetes** 

#### How could cow's milk cause diabetes?

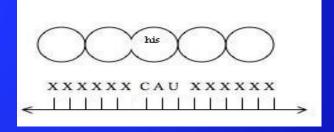


A1 milk can be broken down

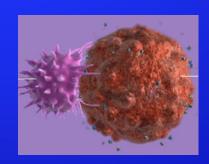
A2 milk - cannot



In the gut A1 milk is split into 2 proteins:



One is similar to Islet cells and may trigger the immune system to destroy them





#### The answer is so simple:

- 1. Babies and children drink A2 milk
- 2. ALL baby formula should be A2
- 3. Drink goats or sheep milk
- 4. Breast feed as long as you can











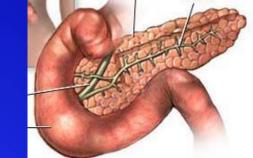
In the USA children fed cow's milk had 11.3 times the risk of developing diabetes as those breast fed for at least 3 months.

# 2. Virus infections produce antibodies

Rubella, mumps, measles, Coxsackie,

These may attack the pancreas cells

So if a child has an infection or vaccine:





## My Suggestion:

At the time of an infection or before and after a vaccination:

- Take plenty of vitamin C
- Look after the gut (probiotics)
- Avoid drinking milk & milk products



Type 1 diabetes - pancreas destroyed - no insulin

Type 2 diabetes – is a very different disease -

insulin but the cells are resistant to it.

Used to be in overweight adults:

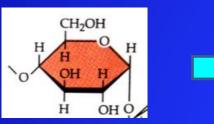
Now it is affecting our children



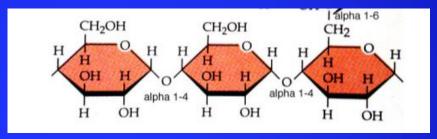
**Centre for Disease Control – 1** in 3 of our children will develop diabetes in their lifetime.

#### Type 2 diabetes is caused by high sugar intake.

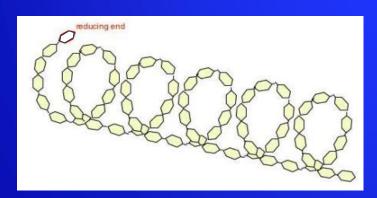
Sugars are joined together for storage in animals and plants – starches

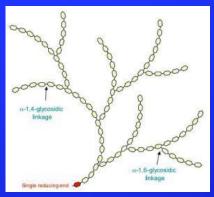






These starches can be in a single strand – or branching strands:



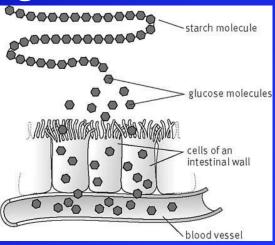


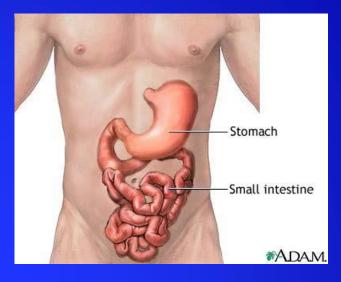


It makes a huge difference to their effects inside us

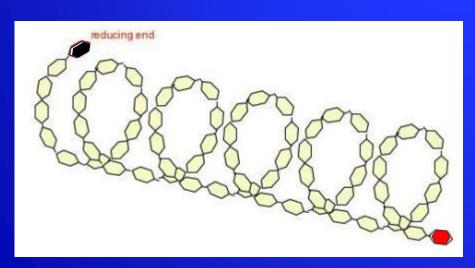
In the intestines – the starch is broken down into

single sugars:





#### Only the END sugar can be removed:



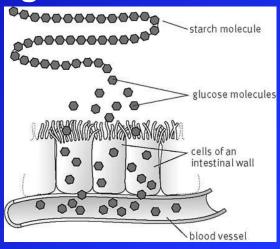
Amylopectin

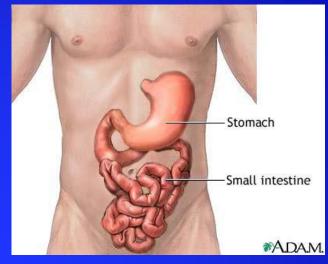
a-1,6-glycosidic

**Amylose** 

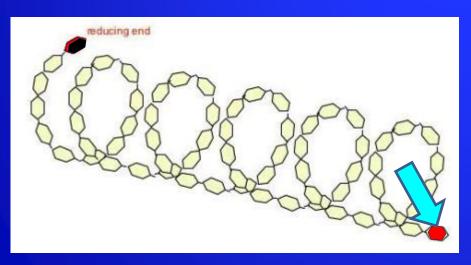
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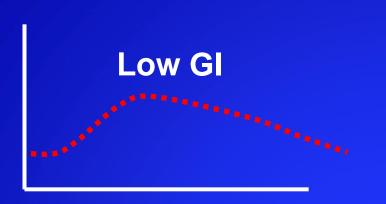


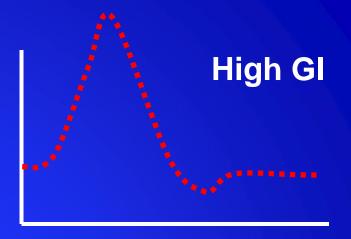
α-1,4-glycosidic linkage

α-1,6-glycosidic linkage

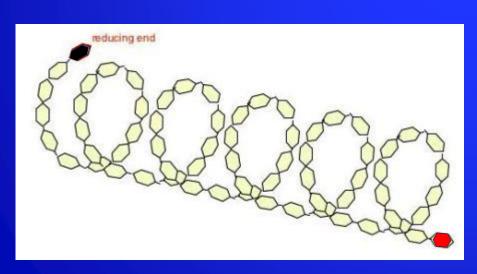
**Amylopectin** 

**Amylose** 

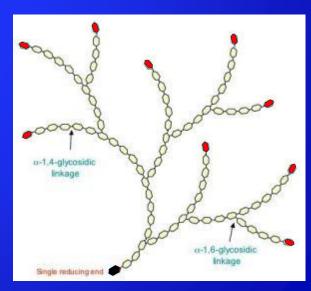




This is why some sugars spike the blood sugar levels (High Gl glycaemic index), and others don't (Low Gl)



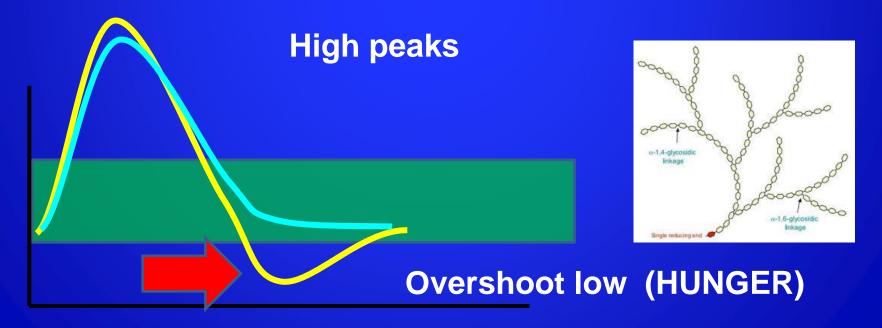
**Amylose** 



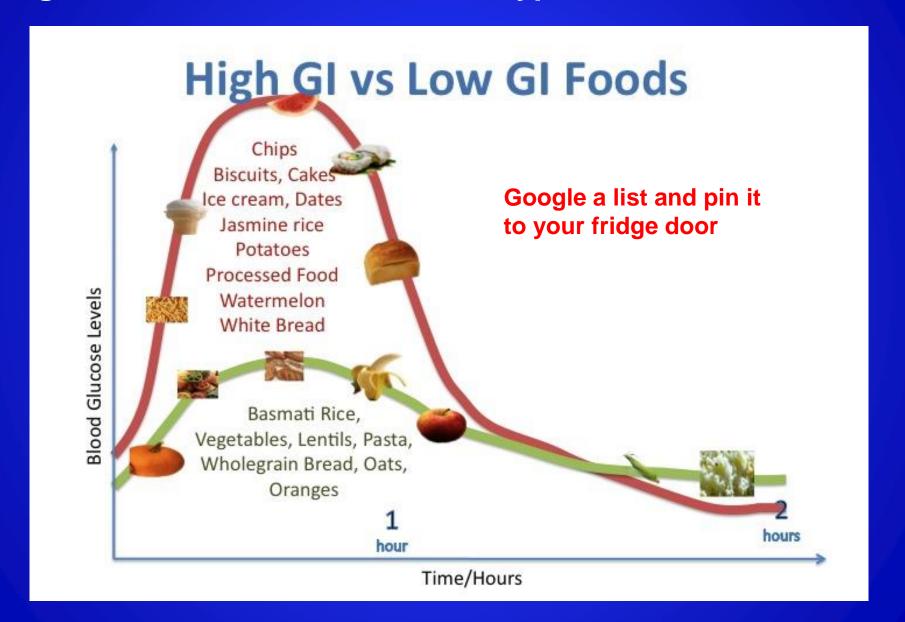
**Amylopectin** 



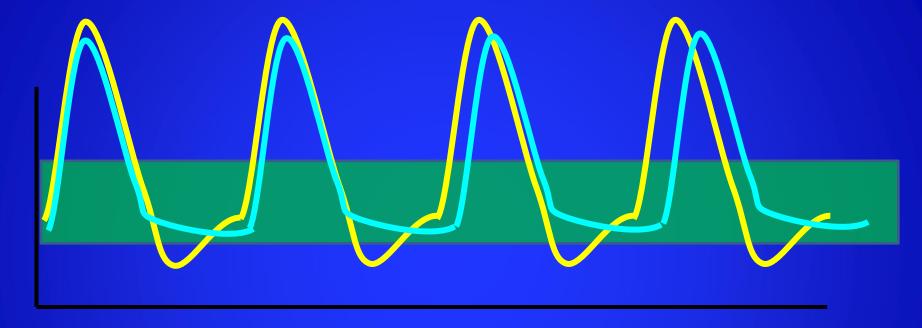
High GI foods make high peaks in the blood glucose followed by high insulin response.



#### High GI foods are one CAUSE of type 2 diabetes



The persistent high sugars and insulin lead to insulin resistance



Muscle Cel

Just like our noses get used to a background smell Our ears to background noise

The insulin receptors get used to high insulin levels and do NOT open the glucose doors as easily

#### Type 2 diabetes

Glucose receptors don't respond to insulin

High levels of INSULIN and GLUCOSE in the

blood stream

Glucose attaches onto cell walls and weakens them





Muscle Cel

Insulin damages artery walls and causes inflammation which also attacks cells

#### Diabetes is a terrible disease



Heart attack, angina, heart failure



**Stroke** 

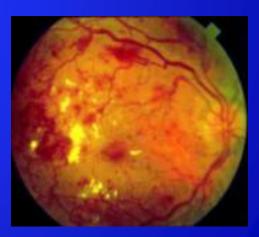




**Gangrene amputation** 

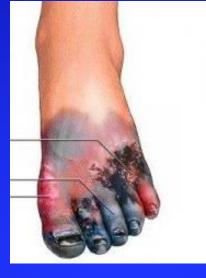


Alzheimer's



**Blindness** 



















# Diabetes is a terrible disease



Heart attack, angina, heart failure



Kidney failure

**Stroke** 



**Gangrene amputation** 

Alzheimer's



not need to happen! But they are - in millions of people world widelindness

# Type 2 diabetes is

- 95% preventable
- Can be STOPPED
- Can be reversed







# **BUT that is NOT happening with modern treatments:**

# **Modern medical therapies:**

- 1. If overweight lose weight ??? How
- 2. Diet "low saturated fat and concentrated sweets"
- 3. Regular exercise
- 4. No smoking
- 5. Monitor blood sugar levels
- 6. Drugs -
  - Sulphonyl ureas (glipizide) weight, death
  - Metformin not in heart failure or kidney disease
  - Avandia- weight, heart failure and liver disease

Most don't increase life expectancy or reverse disease

# BUT the answers are so easy and cheap – WHY AREN'T WE DOING IT IN EVERY DIABETIC?

For v overweight people – losing weight is almost

impossible





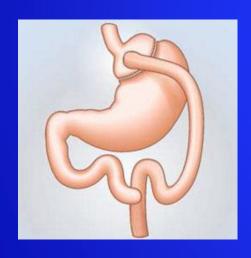


# BUT the answers are so easy and cheap – WHY AREN'T WE DOING IT IN EVERY DIABETIC?

For seriously overweight people who cannot lose weight no matter how hard you try –

Gastric bypass surgery – loses weight and can

**CURE** diabetes

















# The ideal weight loss diet for diabetics:

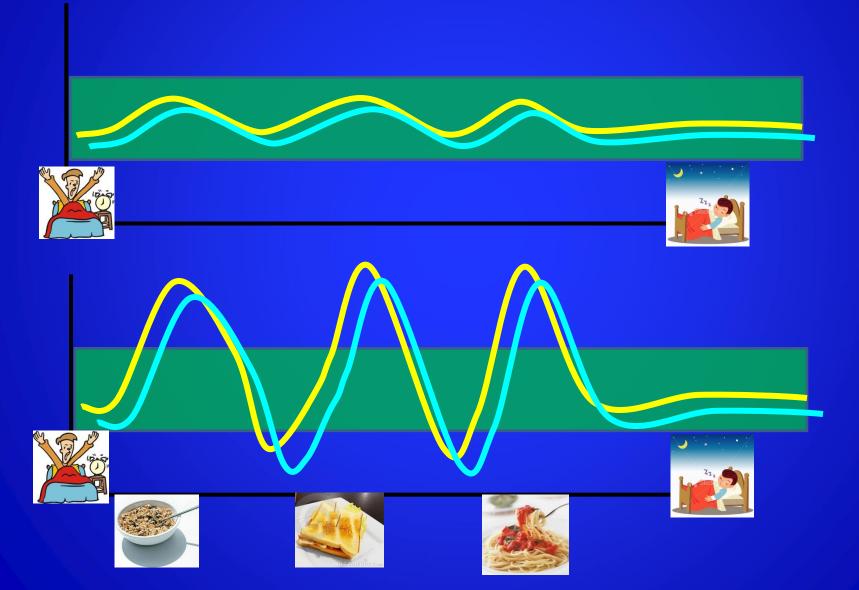
- Eat mostly LOW GI food
- Low sugar fats in moderation, fruit & veges
- Eat lots of fibre in the diet
- Exercise
- Nutritional supplements
- Reduce stress and improve sleep



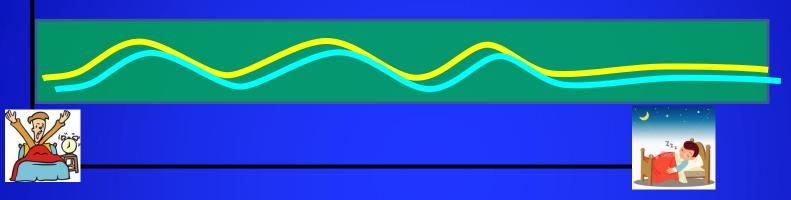


Too easy? Well it works!

# 1. Eat mostly low GI – Low GI foods keep the blood sugar and insulin levels smooth and low, all day.



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- Eat low GI as much as possible
- Replace refined with whole grain
- Eat several small meals and snacks per day
  - not just 3 huge meals.
- Eat calmly and chew your food.
- Eat the larger meal early in the day, and make the evening meal small.

# **Soft Drinks**

Increase diabetes risk

CityNews



A Soda a Day Ups CVD Risk by 30%: NHANES Study

medscape.com 🔾 · February 3, 2014



January 2014
NHANES study – 30,000
Americans > 40 yrs for 15 years







30% increase in Heart attack and Stroke by drinking just ONE small drink!
What is going to happen to our children and

grandchildren?

# **Soft Drinks**

Increase diabetes risk









In the Boston Nurses Health Study (91,000 nurses):

Women who drank > 1 soda per day were **85% more likely** to develop type 2 diabetes than those who did not



American Diabetes Association's 64th scientific sessions

# **Soft Drinks**

Increase diabetes risk











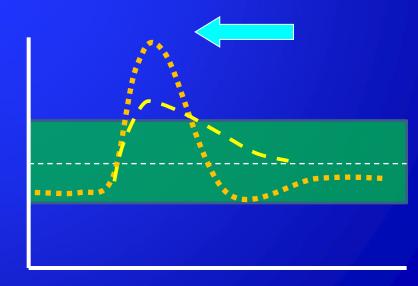


### 2. Lots of fibre in the diet



Fibre in the diet slows down sugar absorption.

Blood sugar levels are HALVED if high GI food is eaten with fibre



# 3. Regular daily exercise

# **Exercise does ALL the right things for diabetes**

- Increases cell sensitivity to insulin.
- Reduces the need for drugs.
- Improves cholesterol and triglycerides
- Reduces weight









Make sure it is FUN!





# 4. Nutritional supplements

- Diabetic cells need PERFECT nutrition
- ALL of the diabetic diseases benefit from optimal nutrients
- Most people eat an imperfect diet
- Absorption may be poor in diabetics

A good multivitamin/mineral/antioxidant Fish oils Extra vitamin D

Does it work?
Look at the medical literature

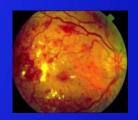












# There is a lot of good research showing that nutritional supplements help in diabetes





# Data which we doctors ignore!



### Multivitamins reduce infections -

130 diabetics given multivitamins or dummy tabs

Infections -

Dummy 93% had infections

**Multivitamins 17%** 



\*Am J Int Med 2003



# Multivitamins reduce infections – B Vitamins –

- Reduce glycosylation
- B6 reduces nerve damage
- Niacin (B3) improves glucose control



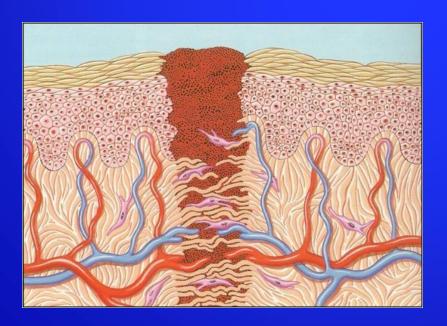




Multivitamins reduce infections – B Vitamins –

### **Vitamin C**

- Reduces inflammation
- Inhibits glycosylation
- Reduces eye damage
- Essential for wound healing



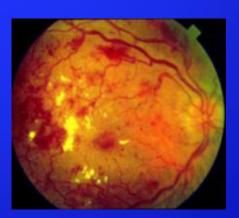


Multivitamins reduce infections – B Vitamins –

Vitamin C
Vitamin E –

- improves insulin sensitivity
- reduces protein glycosylation
- Can improve kidney function
- Reduce eye vessel damage



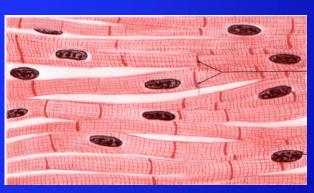




Multivitamins reduce infections -**B Vitamins** –







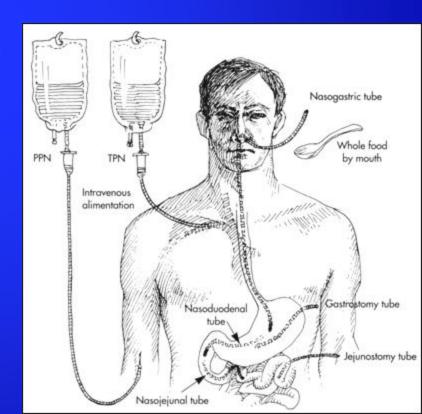
## **Minerals:**

- Manganese helps in glucose metabolism.
- Zinc essential for wound healing and
- Chromium Enhances glucose uptake by the muscle cells
- Magnesium, calcium, selenium, boron......

In hospital patients on complete iv nutrition –

ALL developed diabetes!!!

Adding chromium to the drip – cured this.



# New science – cell signalling

In Type 2 diabetes – the glucose entry doors become insensitive to insulin







**Muscle Cell** 



Polyphenols found in fruits and berries can RESENSITISE these insulin doors.

Eat lots of F&V daily or supplement with polyphenols

# 5. Reduce stress and improve sleep

**Stress** releases 2 hormones – adrenaline and cortisol

- Adrenaline raises blood sugar
- Cortisol raises blood sugar and fats





# 5. Reduce stress and improve sleep

# **Stress** releases 2 hormones – adrenaline and cortisol

- Adrenaline raises blood sugar
- Cortisol raises blood sugar and fats















# **Sleep** – is especially important for diabetes.

## Melatonin is the hormone which puts us to sleep.

- Regulates insulin production
- Affects insulin resistance
- Increases Leptin (satiety

hormone)



- Aim for 7-8 hours sleep every night
- Sleep in total darkness (especially NO blue light)
- Relax before going to sleep.

# We can halt the diabetes epidemic that threatens our children





- Eat mostly LOW GI food
- Eat lots of fibre in the diet
- Exercise
- Nutritional supplements
- Reduce stress and improve sleep







Anyone can do these!

# Sounds easy Anyone can do it DOES IT WORK?

- Eat mostly LOW GI food
- Eat lots of fibre in the diet
- Exercise
- Nutritional supplements
- Reduce stress and improve sleep

Sarah has had diabetes since the age of 10

Is now aged 32 – has 2 young children Husband has left her

Poor leg circulation – leg bypass surgery – unsuccessful

Leg pain at night,
Pain after walking 15 metres









# Conventional medicine couldn't help

No more operations or drugs

Before you amputate Let's try other treatments



Low glycemic foods

**Supplements** – Multi, selenium, coenzyme Q10, Fish oils, Ginkgo Baloba, calcium/magnesium

**Counseling and exercise** 

# When Sarah started -

Leg pain at night, Pain after walking 15 metres

### After 4 weeks -

no night pain, could walk to her mother's house 400 metres down the street.

2 months - received an excited phone call

"I have just spent 3 hours walking round the museum with the children!"









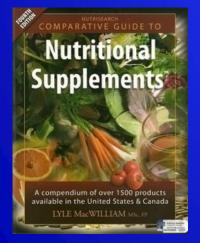


- Eat mostly LOW GI food
- Eat lots of fibre in the diet
- Exercise
- Nutritional supplements
- Reduce stress and improve sleep

I have been searching how my patients can do these and get most benefit.

I have used and recommended supplements in the past – with little obvious benefit.





Then I discovered there was an enormous difference in their content and quality!

# Top rated products out of 5:

5 USANA Health Sciences

5 Douglas Laboratories

4.5 Thorne Research

4.5 Xtendlife

4 Nature's Way

4 Axis

So I tried USANA myself for arthritis

The fundamentals of our nutrition may be at the heart of some of our greatest cures.

MALES DIRECTORS

#### TOP RATED PRODUCTS

#### ver 1,000 reviewed - over 500 Compared

We required over 1,000 America and Consiler resented claim is writing the Comparison Goods Prince No. 508 allows gredient representing the free in the line-up of 235 capacies, were finders evoluted and crinquised to the whereal network standards, screening as content content and shelp scale, explored comparisons were assumpted on ones handed and network (250) finders approximate the operator producty or social assundances. Content comparison here town the return of the content of the content of the content of the content assumption.

The objections is a list of the top- used income—five matrices a polession in the law- up of ever 500 products amount in the expression goals. The Five-fire Rating is based on the percentage some, which his a maximum value of 199%. A some of the persect or above a composition some and in reduces of containing superiorisal ment, bend on the assessment enterior a - a commodable flow, includ. Fewer than 0.8 persons of the 2005containing similar reviewed towar older to attend the incubance.

products analogy recovery sets as to suppose to environment. All of the reventy—free finalise calculat strong scores. However, only show products with autors varieting 90% care done approximate in our Top Products Devicel. The Schreining depositions in controlled information are there are controlling sentiment products and their are controlled sentiments of the sentiments.

Nos a complete laring of all products and their Posal Product Survey, please teller to Appendices A and D.

Brand Name	Product Name	Country	Raine
USANA Hould Sciences	Essentials *	US	****
Douglas Laboratories	Ultra Preventive X	US	****
Vitarrio Research Products	Extend Plus	US	****
Source Nationals	Life Force Multiple	US	****
Source Naturals	Day Visit	US	****
UNANA Health Sciences	Essentials*	CA	****
FreeLife	Steele Mindell Plan	US	****
Life Expression Foundation	Life Extension Mix	UN	****
Kenne	Massam 4	US	****
I Menute Numbion	Super Complete	US	****
Douglas Laboratories	Ultra Presentive Beta	US	****
Sport/Hurrry	Multimord	US	****
Dr. John Whindor's	Forward Multi-Nutriess	UN	****
Dougla Laboratories	Ultra Presendive III	US	****
array	Added Protection III	US	****
Pagics Products	Partiet Multi Focus Formula	OS	****
DaVinci Laboratories	Spectra Worsen	US	****
Doctor's Nutrition	Maga Vites Woman	US	****
Mountain Naturals of Versoort	Women's Superior	UN	****
Douglas Laboratories	Ultra Preventive LX	US	****
Nutrition Dynamics	Optionen Helsth Essentials	US	****
Karana	Maximum 2	US	***
DaVinci Laboratories	Species	US	***
	Superior Cure	US	***
FoodScience of Vermont Mountain Naturals of Vermont	Superior Care	US	***

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# My patients saw my improvements and wanted them too.



# My approach to type 2 diabetic patients

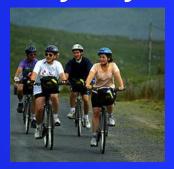
1. Counsel and address stress.

Encourage meditation & relaxation

Get a good night's sleep every night



2. Exercise every day for at least 30 – 45 minutes







- Multivitamin / multimineral
- Omega 3 fish oils
- Calcium and magnesium
- Co Enzyme Q10
- Extra vitamin D

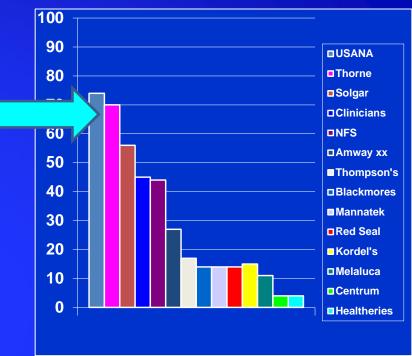




# **STOP Press**

The USANA Multi - CellSentials

Not only are at the top of the supplement range



They NOW have PolyPhenols – which increase the sensitivity of the cells to insulin (and many

other stimuli.)



#### 4. Ideal diet – this is crucial

Reset the insulin receptors by a low glycaemic, high fibre diet USANA has low glycaemic, high fibre, gluten free shakes and bars







Drink 1-2 litres of water daily Walk 20 – 30 minutes every day

If we don't act - 1 in 3 will develop diabetes.





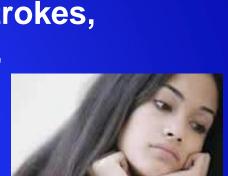
If we don't act - 1 in 3 will develop diabetes.

They will have accelerated heart disease, strokes, amputations, kidney failure, blindness......

The message about sugar in soft drinks is now getting through.







If we don't act - 1 in 3 will develop diabetes.

They will have accelerated heart disease, strokes, amputations, kidney failure, blindness......

But reducing sugar in drinks is NOT enough we need to do more for the next generation:

# If we really care:

We can take these simple cheap steps – which will not only reduce the risk of diabetes – but also heart disease and cancer:

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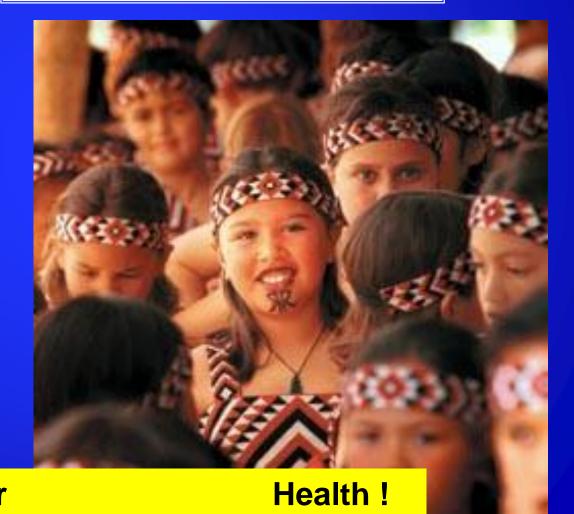
Low Glycaemic foods – high in fibre Moderate exercise Nutritional supplements Stress and sleep

# That is our choice – our legacy



Low Glycaemic foods – high in fibre Moderate exercise Nutritional supplements Stress and sleep







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Online medical advice from an experienced physician who also practices complementary therapies

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DESCRIPTION OF DISEASES
MEDICAL TREATMENT
COMPLEMENTARY TREATMENTS
LIFESTYLE CHANGES, DIET AND SUPPLEMENTS



To understand the purpose of this website, watch this 3-minute video







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24 Hour Free	Access
Life Membe	rship
Become an A	Affiliate
Affiliate Lo	ogin
Medical Condit	ions
ALS, Matar Neurane Disc	sase, Lau
Gehrig's disease	
Nzheimer's disease	
Angina	
Arthritis	
Asthma	
Athletes	
Atrial Fibrillation	
Autonomic nerve dysfunc	tion
Becoming an Affiliate	
Blog	
Cancer	
Cancer – coping with che	mo
Cancer – specific types	
Children's Health	$\neg \blacktriangleleft$
Chalesteral – good ar bac	17
Cluster headache	
Coeliac Disease	

**Talks**