Reportedly stated in 1959 as an assistant to Dr. Klaus Schwarz, M.D. upon discovery and publication of findings in Archives of Biochemistry and Biophysics,

Diagnosis - High Blood Sugar

Solution - Need More Chromium!

50 Years of Suppressed Research On Whole Food Derived Chromium Has Denied Mankind Life-Saving Facts About The Most Important Nutrient Discovered To Date

By Christopher Barr, Health/Nutrition Historian

“Type II diabetes is not a disease. It is the lack of a natural ingredient, known as GTF Chromium.” -- Dr. Walter Mertz, M.D.

November is ‘American Diabetes Month’ according to the 2009 National Health Observances, National Health Information Center, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, Washington, DC.

This month marks a golden opportunity as it is the 50th anniversary of the documentation for the mineral chromium as an essential nutrient specifically in the form of Glucose Tolerance Factor (GTF) Chromium – and the 50th anniversary is the golden anniversary!

‘Chromium(III) and the glucose tolerance factor’ established that the mineral chromium was the largest portion of a molecule previously identified as the glucose tolerance factor.

This publication in *Archives of Biochemistry and Biophysics* for November, 1959, further established that it was the chromium portion that specifically was essential for metabolism of blood sugar. Dr. Klaus Schwarz, a visiting scholar from Germany on a Special Research Fellow program at the
National Institutes of Health had just two years previous established the mineral selenium as an essential nutrient for life. Subsequent to this he was joined by Dr. Walter Mertz – also a visiting scholar from Germany at the National Institutes of Health – and the subsequent chromium finding resulted from this pairing.

Both of these findings were made in the course of liver studies which should be of more than passing interest. That will be addressed later in this article.

**Tests For Toxicity With Chromium Inadvertently Led To Discovering That It Caused Record Longevity In Lab Animals**

At about the same time as Schwarz and Mertz findings were published there was a Trace Mineral Research Laboratory being established at Brattleboro, Vermont by Dr. Henry Alfred Schroeder, M.D..

The phrase ‘trace mineral’ is applied to mineral elements for which usages are generally in microgram amounts (parts per million) rather than the more common milligram amounts (parts per thousand) traditionally found for nutritional usages.

Dr. Schroeder was a graduate of Columbia and Yale Universities, and a tenured professor at Dartmouth University. His accomplishments were many including establishing the salt connection to hypertension (high blood pressure) and establishment of protocols that still form the basis for its treatment today; numerous contributions to NASA regarding astronauts; recognized with the highest award from the American Heart Association; and many, many others.

Schroeder initially started with investigations on three minerals. One of those was chromium.

The use of chromium resulted in a record for longevity in his laboratory animal studies. This was a very surprising and most unexpected result because the purpose of Schroeder’s newly established laboratory was intended to be establishing toxicity rather than seeking nutritional benefit.

Schroeder did not expect to find chromium as beneficial. The unexpected benefit found for chromium led to his digging deeper and discovering the recent work of Schwarz and Mertz on chromium.

A compound named Glucose Tolerance Factor (GTF) is comparable to a dockworker. GTF “dockworkers” move the glucose “load” from the insulin “truck” to the insulin receptor site “loading dock” and into the cell for onsite production of ATP (energy). If there are not enough dockworkers (GTF Chromium) at the loading dock (insulin receptor site), then work slows and becomes inefficient. The absence of GTF chromium “dockworkers” may result in a traffic jam of insulin “trucks” filled with “glucose” “blood sugar”. This results in what is called “high blood sugar” of which the chronic state is called diabetes.

Schroeder shifted from a toxic focus to a nutritional one for his chromium studies and discovered that cholesterol problems were in fact a manifestation of severe chromium deficiency.

Subsequently, Schroeder concluded that heart disease was a manifestation of severe chromium deficiency. It therefore made sense that diabetics were far more prevalent to have heart problems as both conditions were a manifestation of severe chromium deficiency.

Schroeder concluded that “the most effective way of avoiding the atherosclerotic-diabetic syndrome is by prevention’. He looked for a day when “this essential micronutrient so necessary to the integrity of arteries” would no longer be removed by refining. Or at the very least, “if the public insists on white flour and white sugar” to have chromium “restored in sufficient quantities to those foods to ensure their adequate metabolism.”

However, it was soon established that the pharmaceutical, purified product available of chromium chloride had the lowest absorption rate found for any nutrient — a rate of less than one-half of one per cent. That is practically nothing at all.

After almost 20 years of intense research it was concluded that the benefit of chromium only came as it was incorporated in the growth process.
Schroeder expressed great expectation for chromium produced in such a manner in his book, 'The Trace Elements and Man.' He wrote of the great benefit to mankind for this new chromium that Dr. Schwarz and Dr. Mertz had almost completed.

Alas, Schroeder died prior to the completion of this full biological chromium product.

Dr. Schwarz died suddenly shortly after the completion of this full biological chromium product.

Only the much younger Dr. Mertz survived.

It was about this time at the conclusion of the 1970s that I came across the studies on chromium and the knowledge of this new biological, grown, 100 per cent whole food form of chromium.

Diabetes was rampant in my family on both my father's and mother's sides so this captivated my attention. Diabetes is said to be genetic though I subsequently learned that jeans have as much or more to do with diabetes as genes. Families tend to eat the same way and that is why diabetes “runs in families”.

The results from this new chromium were amazing and yet word was not getting out about it. Dr. Mertz was strangely quiet about chromium. His occasional addresses on chromium were short and understated.

Mertz had been named director for Human Nutrition Research at the United States Department of Agriculture. I decided to write Dr. Mertz about gathering chromium information. It was many years before the advent of the internet and research was a painstaking, slow process.

My letter to Mertz asked his assistance how I might obtain a list of all the nutrition studies on chromium so that I could just look each one up instead of trying to discover them happenstance on my own. Mertz responded to my inquiry with a question of his own. He wanted to know why I wanted information on chromium.

At first I was puzzled. Why wouldn't the lone remaining pioneer on chromium nutrition want more attention to this most important matter? Upon deeper reflection I was perturbed that a government official – a public servant – would be hesitant to accommodate a citizen request for how to obtain information.

Well, I had been around the block more than a few times regarding health and nutrition research by this time and was finally able to read between the lines. Mertz was not going to be forthcoming. The reason soon became evident.

A new form of chromium had begun to sweep through the industry. It was called chromium picolinate. I had learned very early on that this form of chromium was not only vastly inferior to the 100 per cent whole food, grown variety of chromium, but in fact made use of picolinic acid that previously had been determined to be cytotoxic. That means toxic to cells.

My research turned up that the patent for chromium picolinate (United States Patent #4315927) was assigned to the United States Department of Agriculture (USDA).

Now I understood.

The USDA was Dr. Walter Mertz's boss. It was apparent that job security in a very high level, cushy, and prestigious job was of more importance to Mertz than competing with his boss – the United States government – in the marketplace.

The full force of the federal government's backing resulted in chromium picolinate becoming dominant among chromium supplements. When studies disclosed toxic aspects of chromium picolinate more than a decade later they were swiftly and harshly criticized.

A couple other man-made, synthesized chromium compounds later entered the marketplace with similar levels of effectiveness (or ineffectiveness if compared to 100 per cent whole food chromium) though at least not having a toxicity issue also attached as with the picolinate variety.

The vast majority of chromium studies for blood sugar and cholesterol have been conducted with chromium picolinate (patented by the federal government). Results have been spotty and inconsistent through the years. Rarely has the 100 per cent whole food chromium even been acknowledged to exist in government or academic circles.

Exactly 50 years after chromium was established as an essential nutrient in this ‘American Diabetes Month’ there is not a single mention of GTF Chromium on the gargantuan web site of the
sponsoring American Diabetes Association organization.

Yet in the few studies with 100 per cent whole food GTF Chromium – and the ever growing circle of individual users thereof – the results are often astounding. Noted are reductions of high blood sugar and high A1C scores, as well as reductions of high levels of the bad LDL cholesterol with an added bonus of increased levels of the good HDL cholesterol.

A good sized book could be filled with just the examples of which I have personal knowledge. Following is an example representative of results with 100 per cent whole food GTF chromium.

A female, approximately 60, was referred to me with a 20-year history of out of control diabetes more than 5 years ago. Her diabetes was out of control largely due to not following a diabetic regimen.

“I like macaroni and cheese and I like white bread, and I’m not going to stop eating them,” she told me.

Her A1C score hovered about 10 or 11. Normal A1C is 4 or 5 for a healthy individual though once a diagnosis of diabetes is rendered the goal of medical doctors is 7. The woman also previously had open heart surgery.

She began a regimen of 100 micrograms (1 tablet) of whole food GTF Chromium three times daily, plus 50 micrograms (1 tablet) of whole food selenium three times daily, a whole food silica three times daily, a whole food magnesium at bedtime and first thing in the morning, and a broad spectrum whole food mineral compound.

Three months later she returned after her regularly quarterly check-up with her long-time medical doctor – a diabetic specialist – and quite a tale to tell. She said the doctor came in with her results with a big smile and said, “I see you’ve finally made some changes to your diet.”

“Nope,” the woman curtly replied.

The doctor laughed and said, “The numbers don’t lie.”

“Well, I haven’t made any changes to my diet,” she
woman insisted before asking, “Do you want to know what I did?”

“Yes,” the doctor said.

The woman known for her independent and spirited ways replied, “Are you sure you want to know?”

“Yes, I want to know,” the doctor replied.

“Well I've been taking this whole food GTF chromium,” the woman said before being abruptly cut off as the doctor replied, “That doesn’t work, and sometimes it makes blood sugar worse.”

At that point I laughed as I informed the woman that there is no study ever done to indicate whole food GTF chromium making blood sugar worse, and that frankly that wasn’t even possible.

The woman laughed at that point and said her doctor then sent her to the Registered Dietitian who asked her why she was there. She told the dietitian she didn't know why but her doctor sent her, and then told the dietitian about taking whole food GTF chromium. She was told that doesn't work and said she got up and said, “Well I don't know what I'm doing here,” stood up and left.

Well, another three months later and another regular quarterly check-up later showed her A1C down to 7, her cholesterol below 200, and her HDL above 50 for the first time ever.

She said that the doctor asked “Are you still taking those chromium pills?”

“I sure am,” the woman replied.

“Well, I guess that is working for you,” the doctor said.

That was five years ago and the doctor didn’t say anything else about her supplements until one year ago. I hadn't heard from this woman for some time when she called me one year ago.

“I just came from my quarterly check-up where my doctor chewed me out and had to call to tell you about it,” she said.

“My A1C was 11 and the first thing out of my doctor's mouth was, 'Are you still taking those chromium pills?”

The woman told me that she had been trying to cut back on expenses for several months so hadn’t been taking her whole food GTF chromium, and that she told her doctor so.

“You get back on those pills and you stay on them,” the doctor chided her.

Four years later the doctor knew why a woman previously with out of control diabetes for 20 years had been finally stabilized for almost 5 years – whole food GTF chromium. I chuckled under my breath as the woman told me this as I thought to myself: “You could have saved the $22 per month for GTF chromium by just skipping one soda every other day!”

The woman said that she was getting back on the whole food GTF Chromium.

The woman subsequently mailed me a copy of a letter she had received from her doctor after her next regular quarterly check-up with the only words in capital letters being “ACCEPTABLE RANGE OR NORMAL” regarding her test results that included ‘Hemoglobin A1C – 7.4%’.

**Obesity Is Not The Primary Cause of Diabetes, It's A Lack Of Nutrient Density – And More Specifically, CHROMIUM!**

One more matter very important to note – especially during American Diabetes Month. Obesity is noted as a primary cause of diabetes (and heart disease, cancer, arthritis, etc.).

There is a well-known, famed, extensive and long term study that decisively refutes this. Every doctor and dietitian worth their salt knows the Framingham studies. These studies disclosed that those on a traditional, Mediterranean diet consisting of whole grains, fresh fruits and vegetables, and olive oil, have much less diabetes and heart disease than average Americans. Those dietary choices are trumpeted far and wide for disease prevention and for good health.

Those on a traditional, Mediterranean diet are of Italy and Greece with an abundance of overweight and yes, OBSESE individuals who have much less numbers of debilitating diseases and enjoy robust health.

It isn’t obesity, per se, that is the issue. It is a matter of nutrient density. If your obesity is due to eating large amounts of white, refined flour and white, refined sugar products that have the vast majority of nutrients stripped away, and processed (or scant)
fruits and vegetables, along with processed oils, then diabetes, heart disease, cancer, arthritis, etc. are
due to an extreme deficiency of nutrients so that all
those extra cells are unsupported and break down.
Again, it is not due to obesity, per se. It is a matter of
nutrient density.

On the other hand, if your obesity is because you
like to eat, but what you eat is a variety of good,
wholesome, fresh, unprocessed foods then you
will enjoy robust health with much less debilitating
diseases. Once again, it is not a matter of obesity,
rather it is a matter of whether you are providing the
nutrient density for the weight that you are carrying.

Case in point …

A woman I have known for many years has worked
more than 30 years in a factory job for a major
corporation averaging more than 40 hours weekly.
The company began having an annual Mayo Clinic
evaluation done on site a few years ago checking
height/weight (BMI/obesity), blood pressure, blood
sugar, total cholesterol, LDL, HDL, and bone density.

Now this woman by nature of the long hours of her
job and long drive has what would be described
as a sedentary lifestyle, is in her 50s, was born and
bred in the south on biscuits and gravy (which is
still a favorite), and has a BMI exceeding 30. In short
she is an obese woman with classic risk factors for
diabetes, heart problems, arthritis, etc.

However, this woman had been on optimum
amounts of 100 per cent whole food GTF Chromium, Selenium, Silica, Folate/B6/B12 and Magnesium for
some time before the first Mayo Clinic evaluation a
few years ago.

The woman told me that each person in front of
her received numerous recommendations from the
nurse reading and advising about the results of each
one. When it was her turn she said that the nurse
looked at her, looked at her results, and then looked
at her again saying, “You’re overweight and need to
lose some weight.”

“No kidding,” the woman told me when relating this
to me.

The woman handed me her results and I laughed.

“They don’t very often see many people with any
one of these numbers in the normal range,” I told her.
“They never see someone with all of these numbers
in the normal range.”

The woman told me that she had informed the nurse
about her whole food supplement regimen and that
the nurse asked for my telephone number saying, “I
need to talk to him.”

Never did receive a telephone call from her though.

Each year since then this woman has continued on
her whole food supplement regimen and each year
as she gets older her numbers in each and every area
improve – other than her height and weight that
stay the same. Each year the woman tells me that the
nurse asks her if she is still on the same supplement
regimen, and again the nurse says of me, “I need to
talk to him.”

Still have not ever received a telephone call from
that nurse to this day.

Health Care Reform Is a Lie! The Diabetes
Epidemic Could Be Eliminated In A Few Months
With Whole Food Chromium!

Finally, a comprehensive study released less than
one year ago placed the total cost for diabetic care
annually at $218 billion.

If every man, woman and child in America took
100 micrograms of 100 per cent whole food GTF
Chromium three times daily to make sure that not
one diabetic was missed it would still cost less than
half that amount.

There are plenty of other valid reasons for taking
that amount of GTF Chromium every day besides
just in case you have, might have, or might someday
have diabetes.

Some months back President Obama wanted his
advisors to come up with ways to collectively cut
costs a total of $100 billion between all of them.

Having every American take 100 per cent whole
food GTF Chromium as outlined above will cut costs
a total of $100 billion annually all by itself for total
health care costs.

100 per cent whole food GTF Chromium is real hope
for genuine health care reform with a change for the
better.