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- Confusion reigns when it comes to calcium...
- How much chalk do you take a day?

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The Source Mentor session

Bone health - Part 2

MENTOR SESSION 32

Calcium confusion!

Well, here we go with the topic that I've received the most questions about so far in the mentoring programme!

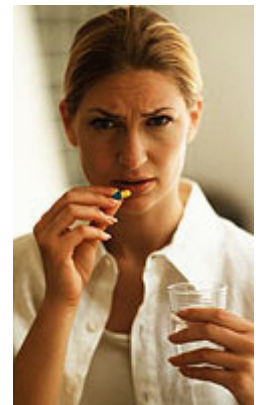
I trust that we can use this session to clear up the issues for you.

Why all the fuss about calcium?

The reason is simple, calcium is one of those really essential minerals that you just need every day of your life! Calcium plays a role in the following areas of your health and well-being:

- The health of your bones and teeth.
- It's very important for normal functioning and contraction of muscles.
- Nervous system health.
- Normal functioning of several enzymes and hormones.

So, yes, it's an essential mineral!



So what's new?

New research is uncovering some fascinating truths about calcium!



Childhood habits:

Women who have low calcium intake during childhood and adolescence are much more likely to have low bone density with increased risk of fracture in adult life.²¹

Blood pressure:

Older women can lower their blood pressure using calcium and vitamin D supplements.²²

Fat:

Some studies are suggesting that there may be a correlation between healthy levels of calcium ingestion and better body weight maintenance.^{23,24}

Who needs more calcium?

The following people need more calcium:

- Pregnant and breastfeeding women (especially this group!)
- Athletes
- Growing children
- People who are chronically ill
- People recovering from surgery or other illness.

Save the chalk!

What very few people realise is that the same type of calcium (calcium carbonate) that is used in chalk is used in many supplements! Yes, I'm referring to the good old classroom-variety chalk!

It gets even better when you compare the price of classroom chalk with the price of supplements containing calcium carbonate.

Here's a freaky comparison...

One bottle of calcium capsules containing calcium carbonate will cost you approximately R80.

The amount of calcium carbonate in this supplement is the same as 9 sticks of blackboard chalk.

The cost of the 9 sticks of chalk?! **R1,60!**

That's a profit margin of **5000%!** ...anybody want to start investing in the calcium supplement industry?



**How much are you paying
for your chalk?**

But will any of the calcium carbonate be absorbed in your system?

The answer is, yes, some of it will, but not much because it just isn't the ideal way to supplement this important mineral.

Cool coral

So you were sitting in front of the television when an advertisement for a 'coral calcium' product assured you of the most amazing health benefits you've ever heard! You were astonished and found the claims unbelievable; which is exactly what they are - not to be believed...

Calcium from coral is, in my opinion, a money-making hoax. It's interesting to note that the American Food and Drug Administration (FDA) has forced a company to remove their super-duper coral calcium advertisement from television! (Here's something to think about: on the coral calcium bottle the ingredient is listed as calcium carbonate!)



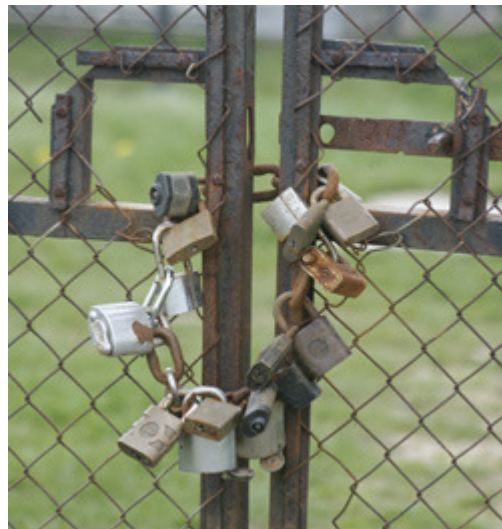
The only literature citing human bones and coral together is the following...

**'Full fathom five thy father lies; Of his bones are coral made;
Those are pearls that were his eyes:
Nothing of him that doth fade But doth suffer a sea-change Into something rich and
strange.'**
William Shakespeare (1564 - 1616), "The Tempest", Act I scene 2

Meet the gatekeepers

To understand calcium absorption we have to understand how calcium metabolism is controlled in the human body. When you drink or eat calcium-containing substances calcium is not necessarily just absorbed straight away. There are two 'gatekeepers' in the form of the hormones **calcitriol** (from Vitamin D) and **parathyroid hormone** that decide if and how much calcium should be absorbed.³ (Parathyroid hormone comes from the parathyroid glands that are found in the vicinity of your thyroid and they work with the kidneys in the maintenance of calcium and phosphorus levels in the body.)

These two gatekeepers are constantly aware of what the calcium situation is in your body at any given moment and they make sure that your blood calcium levels don't drop dangerously low. This is done by mobilising calcium from bone and through absorption in the gut.



Calcium absorption is not as straightforward as you thought!

So where does that leave us when it comes to calcium absorption?

The answer is twofold. Firstly we need to convince the gatekeepers to absorb more calcium and secondly we have to impress the gatekeepers through the quality of calcium that we present to them!

Step 1: Convincing the gatekeepers

The way to convince the calcium gatekeepers is by using other vitamins and minerals in conjunction with the calcium that you are taking. They are:



1) Magnesium

I cannot overstate the importance of this mineral. This is where you start your supplementation! Remember that magnesium is a critical contributor to more than 300 enzyme systems in the human body⁷ and it's a scientific fact that many people are living with a chronic magnesium deficiency!²⁵ Magnesium plays a **super-important role** in how the two gatekeepers regulate calcium in the body and thus affects bone formation and mineralisation and helps prevent osteoporosis.^{26,27}

You need 600mg elemental magnesium every day.

(See sessions 26 and 27 to understand magnesium supplementation.)

2) Vitamin D

This vitamin is produced in your skin through exposure to the sun and that's why step one in bone health is to get outside enough!

Light-skinned people produce vitamin D easier than dark-skinned people and in the winter months many people's vitamin D levels crash quite badly due to little or even no sun exposure.

My recommendation is that you can always do with supplementation on top of your outdoor habits and **400 – 600IU of vitamin D** is the basic level of supplementation that you need.

3) Vitamin K2

Vitamin K2 is just as important to take together with calcium. It ensures bone calcification and prevents heart disease. Take 2100 mcg of vitamin K as 1000 mcg K1 and 1100 mcg K2.

Step 2: Impressing the gatekeepers

Impressing calcitriol and parathyroid hormone is primarily done through eating the right amounts of calcium-rich foods because you want to present the most absorbable forms of calcium!

Remember that food **ALWAYS** comes first when we address any deficiency and thus focus on eating a balanced diet filled with enough fruits, vegetables, fish, nuts and seeds and all the other good stuff I referred to in the previous session!



Impressing the gatekeepers with quality calcium supplements.

This is where it gets tricky because the calcium gatekeepers are fussy. You've hopefully figured out by now that calcium carbonate isn't top of the list. Here's a list of calcium supplements that make the grade.

-**Calcium Citrate** (This form of calcium is very affordable and freely available in health shops.)

-**Calcium glycinate** (Amino acid chelate)

-**Dicalcium malate**

-**Calcium bis-glycinate** (Amino acid chelate)

It's preferable to use the calcium in a powder form that is dissolved in a glass of water as absorption will be increased.

I also advise people to take a daily multi-nutrient supplement that has at least the RDA levels of most of the vitamins and minerals.

Current controversy:

In two research studies published in 2013^{28,29} a possible link to calcium supplementation and heart disease was reported. Much is being said about these articles and they are also widely criticised for having design flaws etc. The bottom line to these findings are that yes, calcium supplementation can be detrimental to your arterial health IF you forget to take the ULTRA IMPORTANT trio of magnesium, vitamin D and K! This mineral and two vitamins are the reason why calcium metabolism works properly and why you will only be left with all the proven scientific benefits of calcium supplementation like heart disease and osteoporosis prevention!³⁰

Timing

Calcium absorption is also a timing issue.

In one study it was proven that calcium is absorbed better if taken in conjunction with Vitamin D in 2 dosages that were 6 hours apart, so you'll need to spread your intake.³¹



Myth busting

Calcium in the glass of water theory

I've heard that some people test how well a calcium supplement will absorb in your gut by placing it in a glass of water to see how effectively it dissolves in the water.

There is no scientific foundation for the 'calcium-dissolving-in-water' theory. A glass of water is definitely not a good simulation for the acid of your stomach! Most calcium supplements dissolve fairly well in the stomach and if you really want to test this you need laboratory simulation of the stomach environment.



To summarise

**Here is a summary of
how to look after the health of your bones:**

Step 1: Be in direct sunlight for about 1/2 an hour a day (early morning or late afternoon).

Step 2: Do the right types of weight-bearing exercises on most days of the week. (Don't forget the yard work!)

Step 3: Always eat a healthy diet containing enough fruit, vegetables, fish, raw nuts and seeds. If you want to take dairy try to get it organically (and not pasteurised, if possible).

Step 4: Take supplements containing the correct micronutrients in the quantities as outlined in both sessions. This includes a good calcium supplement like calcium citrate or calcium bis-glycinate in conjunction with magnesium and vitamin D & K (in 2 dosages more than 6 hours apart per day).

**I trust that these sessions have given you useful information about calcium and bone health that will help you to make more informed decisions.
Remember to involve your integrative healthcare practitioner before starting any supplement-based protocol—especially this one.**

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About Dr Anton



Dr Anton Janse van Rensburg is a practising medical doctor who has devoted himself to the study of unique, scientifically sound solutions to modern diseases. He is also a qualified metal toxicologist and has a master's degree in Applied Human Nutrition.

He has written on a variety of wellness topics for numerous South African magazines and newspapers and in 2009 co-authored the book 'Diamonds in the Dust – crafting your future landscape'. Dr Anton is no stranger to radio and has been able to guide scores of listeners with his passion for wellness education.

Dr Anton is an established public speaker and is also a wellness coach to company executives. He specialises in motivating people to adopt healthier habits through well researched lifestyle and food approaches.

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