Bone Health Companion

Alga^eCal_a

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Letter from our Founder & CEO



Life Is For Living. At AlgaeCal we understand this deeply. And that's why we don't measure our customer's successes by the numbers on a DEXA scan-important though those are. The true measure of success is every moment our customers get to embrace life, uninhibited, free, and to its fullest.

It's in the laughter echoing through the park as a grandmother twirls with her grandchildren. It's the sense of pride and joy that comes from tending to a blooming garden, and the warmth of the sun on the skin after a successful trek. It's the light-hearted banter shared with old friends at a local golf club, knowing that their bones are sturdy enough to carry them through the game and beyond.

Professor Beth Impson, expressed this beautifully when she wrote, "Thanks to AlgaeCal, I'm still living the life that I love." Yes! That's exactly what motivated us to start AlgaeCal all those years ago-so that Beth could live her life on her terms-without worrying about her bones.

And then there's the inspiring story of Ella Fialkoff from Los Angeles whose bone health journey took her from being "skeptical" to "ecstatic!" A bad DEXA led Ella to discover AlgaeCal. If you think she was happy with a 9.3% increase in the bone density in her spine after just one year, imagine how thrilled she was to have another 15% increase just one year later! Every day, our inbox overflows with stories of lives regained, of passions pursued, of little joys that make life worth living.

This past World Osteoporosis Day in October, we didn't just commemorate a date; we saluted the indomitable spirit of our customers. Because with AlgaeCal, every 'yes' to life is not just a choice-it's a triumphant declaration...Life is for living!

We're with you in every step, every dance, and every climb. Your life is for living, and we're here to make sure of it. So please, enjoy this special edition of The Bone Health Companion. And remember, if you ever need to chat about your bone health, we're always here for you, toll-free at 1-855-519-8540 (USA/Canada).

Dean Neuls | CEO & Co-Founder AlgaeCal Inc.



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Are Your Bones *Really* Getting Stronger?

You can prove that AlgaeCal is increasing your bone density, without the usual DEXA scan. Here's how to do it...



REVIEWED BY Lara Pizzorno AlgaeCal Scientific Advisory **Board Member** MDIV. MA. LMT

Best-selling author of Healthy Bones Healthy You! and Your Bones.

enhancing your bone health? You could get a DEXA scan. That's certainly the gold-standard for measuring bone mineral density. But there's a problem. It can take up to six months for notable changes in bone density to register on a scan. And let's not forget the frustrating waiting times for an appointment.

Want proof that AlgaeCal is

But don't worry. There's another way. You can get immediate insight into the health of your bones with a Bone Turnover Marker test. This simple test analyzes the activity of your bone-forming and boneresorbing cells. And it's a good way of accessing whether or not your bones are getting stronger.

Bone remodeling is a two-part process: first, osteoclast cells break down old or worn-out bone. releasing growth factors in the process. These factors then set the stage for osteoblast cells to craft fresh, new bone. This delicate balance ensures your bones remain strong and sturdy.

During normal healthy bone remodeling, osteoclasts and osteoblasts work together in tiny

multicellular groupings called Basic Multicellular Units. Think of these units as your body's bone-building construction crew.

These cellular crews replace old bone with new bone, ensure your blood levels of calcium remain stable, and your body's overall pH remains slightly alkaline, and in the process, release compounds that appear in your blood and urine. These are your bone turnover markers.

Bone Turnover Markers Shed Light on the Health of Your Bones.

As you age, your bone remodeling changes, and so do your bone turnover markers. They're at their highest when you're a growing child, spike in puberty, level off in adulthood, and then climb again after menopause.

When reviewing your test results, keep in mind that the optimal levels for bone turnover markers are derived from research on women aged 35 to 45. This age bracket represents a period when bone activity is usually in equilibrium.

How to Get Your Bone **Turnover Markers** Checked

A DEXA scan remains the gold standard for measuring bone density, and regular scans are essential to track your bone health. However, a Bone Turnover Marker test can complement a DEXA scan by providing more frequent insights into your bone activity.

Consider discussing with your healthcare provider about scheduling periodic Bone Turnover Marker tests. In the U.S., many insurance providers, including Medicare, usually cover at least one Bone Turnover Marker test, so it's likely your test will be financially manageable.

Interpreting Your Results

Lab ranges vary, but in general, healthy levels of bone remodeling are indicated by the following ranges:

Markers of Bone Resorption:

- CTx blood levels: 114–299 pg/ml
- Urinary NTx/Creatinine: 9.22-24.8 nmol BCE/mmol creatinine

Markers of Bone Formation:

- P1NP. 16.3-36.0 ng/ml
- Bone ALP. 5.15-8.68 ng/ml

If you find that your bone turnover markers for bone resorption (CTx) are out of range on the high-end, it indicates excessive bone turnover. However if your bone turnover markers for bone resorption (CTx) are out of range at the low end, it indicates osteoclast activity is

suppressed, and remember, bone renewal is coupled. Osteoclast activity is needed to initiate osteoblast activity. If your bone turnover markers for bone formation are out of range on the lower-end, it indicates that you're rebuilding bone too slowly. Ideally, your measurement for P1NP and CTx will both be around mid-range, indicating a healthy balance of bone resorption and bone formation.

Bone Turnover Markers Explained

As mentioned above, while getting a DEXA scan to assess bone mineral density is important, bone



turnover markers are helpful for evaluating bone health on a more frequent basis. In fact, within just 12 weeks, bone turnover markers can tell you if the activities of your osteoclasts and osteoblasts are moving towards-or are already in-a healthy balance.

Want to know more about bone turnover markers? Head over to the AlgaeCal website and read my in-depth article.

Scan the OR code or click this link for more information: algaecal.info/bone-turnover -marker-m14





Forearm Power Plank

Ready to chisel your core, activate those glutes, and fortify your bones? Well, buckle up, because we're revealing a quick and easy exercise that achieves all this. And yes, you guessed it-it's ultra-safe for your precious spine!

How to Perform the Exercise



PROPS

To perform this move you'll need a yoga mat and a timer.



Get down on your forearms, keep your palms facing down, and lower your body. Next, rest on your knees, drop your hips down, and tuck your tailbone. You should feel your core engage.



Push down with your arms and then pull in as if you're going to pull the mat together. This should help you activate your core.

Hold the position for 20 seconds. Make sure you're breathing in and out. Push your heels back into an imaginary wall.

Take a 20 second rest. You can Just make sure to breathe.



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Now do the plank again for 20 seconds. Make sure your back doesn't curve and your belly stays pulled in. And keep your tailbone tucked.

TAILOR THIS EXERCISE TO YOU

At the end of step two you can extend one leg or both legs. Pick the appropriate version to suit your needs and comfort level.

lie on your belly, just bring your hands down. You can shift your hips a little bit from side to side.



Dr. Emma Gasinski, PT. DPT. RYT

Emma has a Doctorate in Physical Therapy from Rocky Mountain University of Health Professionals and is a certified yoga teacher. She's passionate about giving the body tools to heal through movement and nutrition.

Watch the Video

To watch the full core exercise series, type this URL into your web browser or scan the QR code below: algaecal.info/ core-exercises-m14



Revolutionizing Bone Health: A New Study's Discovery!

Buckle up for a wild ride into the heart of bone health. The OsteoLaus Study has revealed a revolutionary breakthrough in bone health assessment, harnessing the incredible power of the latest bone testing innovations! Brace yourself. After this, you'll never look at DEXA scans the same.





By Prof. Didier Hans, PhD, MBA

Head of Research & Development Center of Bone Diseases, Lausanne University Hospital CHUV, Switzerland

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You've likely heard of a DEXA scan. For years it's been hailed as the "gold standard" for osteoporosis diagnosis and predicting

fracture risk. But guess what? It's not painting the full picture of your bone health.

As the lead investigator of the OsteoLaus Study, I'm here to shed light on how combining classic bone assessment tools with newer ones can give you a sharper edge in spotting osteoporosis and assessing your fracture risk much earlier.

In fact, there's one test you should have done immediately after your DEXA-it can even be done on the same machine using the same images (more on that later). So stay tuned, this is going to be a game-changer!

What Is The OsteoLaus Study?

The OsteoLaus Study is an ongoing population-based cohort of 1,475 postmenopausal women (mean age of 64.4 ± 7.5 years).¹ Nestled in the picturesque city of Lausanne, Switzerland, these women are at the center of an epic exploration.

This exciting study is being conducted by the Interdisciplinary Centre of Bone Diseases in close collaboration with the University of Lausanne. Together they're on a mission to crack the code of bone health by contributing to the early, pinpoint detection of increased fracture risk.

It's all about developing strategies for optimizing bone health care in postmenopausal women using

classical and artificial intelligence approaches. That's right. They're using cutting edge AI. So these researchers aren't just collecting facts and figures-they're shaping the future of bone health care!

Why the Study is **Critical to the Earlier Detection of Bone Loss**

Right now, DEXA scans are the goto tool for measuring bone mineral density (BMD) for osteoporosis diagnosis and predicting fracture risk. But here's the catch: BMD only assesses the quantity of bone, not the quality. So it's ability to tell you how strong your bones are is limited.

Another big concern with DEXA images is that they're twodimensional projections of the three-dimensional bone structure. Basically they're showing you flat, 2D snapshots of a 3D world.

As you can imagine, it's a mathematical challenge to translate a 2D image of bone into the 3D structure that it represents. That's why the trabecular bone score (TBS) was developed.

It assesses bone quality and fracture risk at the lumbar spine by measuring how well-structured or poorly structured the trabecular bone appears.

Recently, it's been shown in studies to independently predict fracture risk and to complement standard BMD imaging in patients with low bone mass.^{3,4} And get this, TBS uses a software program installed on a standard DEXA computer to show the bone's microarchitecture.5

Since it's done on the same machine using the same images, you can get your TBS test done

at the same time you get your or waiting around!

That's why, when we were planning our study, we knew we absolutely had to include TBS. It's like having an extra set of eyes to help us get the most accurate picture of our participants' bone health.

What the Study **Reveals So Far**

The study is ongoing, but it's already produced some valuable insights. That's because the Osteo-Laus Study includes comprehensive bone and body composition assessments such as the fracture risk assessment (FRAX), hip structural analysis (HSA), and vertebral fracture assessment (VFA).

Our researchers have calculated The incidence of major Those who fractured were Our discoveries in the Osteo-

participants' BMD and TBS for each of the L1-L4 vertebrae. Then lumbar spine (LS) BMD and TBS were calculated again, excluding vertebrae. BMD measurements were recorded for the total body, hip, and femoral neck (FN) vertebrae using DEXA scans. osteoporotic fractures (MOFs) were assessed from vertebral fracture assessments. Of the 1,475 women participants, 132 women experienced an MOF. Among the fractures, seven were hip fractures, 15 humerus, 33 forearm, and 86 vertebral fractures. older and had more visceral fat and thicker soft tissue. They had lower BMD at the LS. FN. and hip as well as lower TBS.67 Laus Study confirm something crucial: you need to use both

DEXA. No extra ionizing radiation

current and newer bone assessment tools to create a more accurate osteoporosis diagnosis and fracture risk prediction.

Takeaways

To stay on top of your bone health, it's important to get a DEXA and TBS. The beauty of having both tests is that you get a better picture of your bone health: bone quantity and bone quality.

It's been shown that the combination of TBS and DEXA is better at predicting fractures than either test alone. So I wholeheartedly recommend you do both. It's very easy to do so since you can have them done at the same time.

With that being said, not all facilities offer TBS yet. But you can check www.medimapsgroup. com/find-centers-with-tbs-osteo/ to see if a clinic near you does.

You'll also want to check with your health insurance company to see if it covers TBS as CPT codes were given since January 2022. If it doesn't, the cost is about \$50-\$150 U.S. dollars in the states.

Note: Though Dr. Didier Hans is a member of AlgaeCal's Scientific Advisory Board, AlgaeCal is in no way affiliated with, or profiting from the study or this advice.

Scan the OR code or click this link for more information: algaecal.info/ osteolaus-study-m14



From "Naive" And "Skeptical" To "Ecstatic" And "Amazed."



Name: Ella Fialkoff Location: Los Angeles, CA Testimonial Received: Sept/23

When Ella's doctor encouraged her two years ago to get a DEXA scan, she was by her own admission "embarrassingly naive" and "oblivious" about bone health. She said the results of her scan were "depressing."

Things went from bad to worse when her doctor told her she wanted to have a "serious" conversation with her and said Ella needed to immediately start taking a prescription medication. Despite her doctor's dire concern, Ella was skeptical of the big pharma alternative because, for her, medications have always been "pretty much the last resort."

"So I went investigating and I found AlgaeCal and took it religiously for a year with strontium," Ella told us. She also started a serious weight-bearing workout.

When she got a second DEXA scan just a year later, she was thrilled with the results.

That's because the bone density in her spine went up 9.3% and she had a 13% increase in her femoral neck.

When Ella contacted AlgaeCal again a year later she said she was "skeptical" going in to get her latest DEXA scan. "I know a lot of people wait two years to take another test," Ella said, adding that she wasn't just skeptical,"I was scared of the results."

But when she saw her latest numbers after just two years on AlgaeCal, she was "ecstatic."

That's because, despite no longer doing her weight-bearing workout that year, the bone density in her spine still increased 15% and her femur was up another 4.7%.

"I was amazed," she said. "Absolutely amazed! These are not opinions, these are not reviews, these are doctors' reports."

Today she's looking forward to getting better and better and "is so happy to spread the word about AlgaeCal."

Have a Great **Success Story?**

Would you like to be featured in an upcoming newsletter? Give us a call today. We can't wait to hear your story!

+1.855.519.8540USA & Canada (Toll-Free)

+1.510.584.3856International

6AM-4PM PST or email us at: support@algaecal.com

Watch the Video

To hear Ella tell her full story, visit algaecal.info/ella-fialkoff-m14 or scan the QR code below.

Elevate Your Bone Health Boost Your Immunity Improve Your Mood Support Your Heart **Shed Your Excess Weight** Strengthen Your Muscles

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Scan the QR code or go to algaecal.info/vitamin -d3-m14





Turkey A La King

This comforting, one-skillet wonder is made with cooked turkey and vegetables simmered in a luxurious white cream sauce. It's a leftovers dream come true! Plus, each serving delivers 19 grams of bone healthy protein.

Calories: 396 | Fat: 29 g | Protein: 19 g | Sugar: 9 g | Carbs: 19 g | Fiber: 4 g | Sodium: 539 mg | Cholesterol: 108 mg | Potassium: 825 mg | Vitamin A: 2135 IU | Vitamin C: 56 mg | Calcium: 96 mg | Iron: 2 mg |

P	REP: 15 MINUTES	СООК : 45	MINUTES		
1	medium sweet onion, diced stalks celery, diced		1	red pepp	
			12	oz crem	
				sliced	
4	cloves garlic		1	cup pea	
1	Tbsp avocado oil		2	2 cups left roughly o	
2	tsp ground dried	sage			
1½	tsp ground dried	thyme	1.	1. In a lard	
1	tsp ground dried marjoram		1.	celery, becom	
3⁄4	tsp ground dried	rosemary	2.		
⅓	tsp ground nutme	eg		vegetal	
1∕₂	tsp finely ground black pepper		3.	Add br and lig	
1	tsp salt		4.	Add cro to simr	
1	Tbsp potato stare	ch	5.		
4	cups turkey or ch broth, low sodiun		5.	sourdo	
1	cup whipping cre	am	M	AKES 4	



oper, diced nini mushrooms,

eftover turkey, y chopped

rrge skillet, over medium heat, add avocado oil, onion, , garlic, herbs, salt and pepper. Sauté until onions ne translucent, approximately 10 minutes.

ootato starch, mixing until thoroughly combined into able and herb mixture.

roth and allow to simmer until liquid reduces to half ghtly coats a spoon.

ream, red peppers, mushrooms, peas and turkey. Allow nmer for 20 minutes until vegetables and turkey soften.

sh with additional herbs and serve with a slice of lough if desired.

SERVINGS

Mushroom Loaf

This hearty mushroom loaf has a culinary ace up its sleeve: cremini mushrooms. They'll add that meaty texture and rich taste your family will love. Plus, they're loaded with zinc, potassium, copper and selenium—ALL key bone boosting minerals.

Calories: 559 | Fat: 25 g | Protein: 17 g | Sugar: 9 g | Carbs: 72 g | Fiber: 7 g | Sodium: 837 mg | Cholesterol: 82 mg | Potassium: 1225 mg | Vitamin A: 645 IU | Vitamin C: 22 mg | Calcium: 110 mg | Iron: 4 mg |

PREP: 30 MINUTES COOK: 45 MINUTES

Mushroom Loaf:

- 1 medium sweet onion, diced
- 4 stalks celery, diced
- 3-4 cloves garlic, minced
- 12 oz cremini mushrooms, finely chopped
- 1 Tbsp avocado oil
- 1¹/₂ tsp dried thyme
- 1¹/₂ tsp dried parsley
- 1 tsp ground sage
- 1 tsp dried rosemary
- 2 tsp salt
- 1 tsp pepper
- 2 large eggs
- 2 cups cooked rice
- 1 cup mashed potatoes
- ³/₄ cup rolled oats
- y₃ cup gluten free breadcrumbs
- ³⁄₄ cup walnuts, finely chopped
- 1/4 cup tomato paste
- 2 Tbsp Worcestershire sauce

Mushroom Gravy:

- 4 oz mushrooms
- 2 garlic cloves, minced
- 1/2 sweet onion, finely diced
- 1 Tbsp avocado oil
- 1 Tbsp potato starch
- 16 oz vegetable stock
- Salt and pepper to taste
- 1. Preheat oven to 375 degrees. Line an 8.5 x 4.5 loaf pan with parchment.
- 2. In a large skillet, over medium heat, add avocado oil, onion, celery, mushrooms, garlic, thyme, rosemary, parsley, sage, salt and pepper. Sauté until all vegetables have released all their liquid and the pan is mostly dry, approximately 15 minutes.
- 3. Transfer the cooked vegetable and herb mixture to a large bowl. Add the remaining loaf ingredients and combine until thoroughly mixed.
- 4. Place mixture into your lined loaf pan and bake for 45 minutes.
- 5. In a medium saucepan, over medium heat, combine mushrooms, garlic, onion and avocado oil. Sauté until onions are translucent. Add potato starch and stir constantly approximately 2-3 minutes.
- 6. Add vegetable stock, stirring constantly until it begins to coat a spoon. Reduce heat to low and simmer for approximately 15 minutes until the liquid becomes your preferred gravy consistency. Add salt and pepper to taste
- 7. Allow the loaf to cool for 20 minutes before cutting and serve with mushroom gravy!









Rum Balls

Perfect for flavor fanatics, these decadent rum balls are an easy, no-bake treat. And there's a sweet surprise in these bad boys—dates! Dates pack a mean, bone-loving punch with phosphorus, potassium, calcium, magnesium and vitamin K.

Calories: 376 | Fat: 16 g | Protein: 45 g | Sugar: 7 g | Carbs: 11 g | Fiber: 1 g | Sodium: 1161 mg | Cholesterol: 215 mg | Potassium: 671 mg | Vitamin A: 64 IU | Vitamin C: 6 mg | Calcium: 48 mg | Iron: 3 mg |

PREP: 1 HOUR

- ²∕₃ cup almond flour
- ³⁄₄ cup medjool dates, pitted
- ¹/₄ cup hot water
- ³⁄₄ cup finely shredded unsweetened coconut
- 3 Tbsp cocoa powder
- 1 Tbsp rum extract, organic
- 1 tsp pure vanilla extract, organic
- ⅓ cup finely shredded unsweetened coconut for rolling

- two weeks!

MAKES 12 SERVINGS



1. Place all ingredients, except the coconut for rolling, in a food processor or highspeed blender until smooth.

2. Place in the fridge for one hour.

3. Divide mixture into 16 equal portions and roll into balls.

4. Place remaining ¹/₃ cup coconut on a plate and roll each ball until coated.

5. Serve immediately or store in the fridge for up to

Spotlight: Shelby

Fun Fact

Shelby is a fully-qualified teacher. It's no wonder she's brilliant at simplifying complex topics, helping us grasp the ABCs of bone health with ease.

Valued. That's how you feel when you spend time with Shelby. She has a knack of making you think you're the most important person in the world. "One of the things I love about AlgaeCal," she says, "is that it allows me the privilege to genuinely engage with each customer's needs." Yet it's not just the generosity of time that defines Shelby's interactions; it's her attention to detail and unwavering dedication to each and every person she connects with.

Her thorough attention to detail typifies our Bone Health Consultants. "I've always believed

in the magic of details," Shelby says with a determined twinkle in her eye. "When customers call to talk about their bone health-details matter. That's why, in our mission to restore bone health, no detail, however minor, goes unnoticed or unaddressed."

Ursula, one of our cherished customers wrote, "Hi Shelby, Thank you so much for the thorough response you have provided. It is comforting to see that there are actual people, like yourself, who engage with customers in order to help with any issues, and in general to be of support."

Another grateful note from Mary encapsulated Shelby's unique touch: "Shelby, just want you to know how I'm so appreciative of your patience and kindness. You've gone above and beyond to help me!"

Hailing from wintery Manitoba, Shelby has a deep appreciation for the warmth of summer days. When she's not guiding our customers towards healthier bones, she's exploring Winnipeg's scenic trails, with Rosie, her spirited Golden Labradoodle, joyfully trotting alongside. And as the sun dips below the horizon? You'll find her in her kitchen, creating culinary delights that fill her home with mouth-watering aromas.

At day's end. Shelby reflects with a sense of fulfillment: "There's a profound satisfaction in realizing that today, once again, I was part of someone's journey to stronger, healthier bones."

Our Experts Answer Your Bone Health Questions

iournevs!

My vitamin D levels are below optimum (40). I get 1600 IU a dav from AlgaeCal. I noticed that vitamin D supplements are 1000 IU each. Would a daily one of these be too much?, asked Jennifer, a loyal Community member.

That's an excellent question, Jennifer! "An extra 1000 IU of vitamin D would unlikely be too much. If your levels fall below this range, there are online calculators to estimate how much vitamin D you need. Here's one calculator: omegaguant.com/vitamin-d -calculator/. Input your target vitamin D level, current weight, and current vitamin D level. The maximum dose this calculator recommends is 4000 IU. We recommend contacting your doctor about a dose that best fits your needs."

I have read that vitamin D3. taken in the evening, can cause the body to not produce melatonin, and/or not allow the body to use supplemental melatonin. Does vitamin D block melatonin?, inquired Sue, a valued Community member since 2020.

That's such an important guestion. Sue! We'll let Lara answer that one.

"I suggest you have your 25(OH)D run. If elevated, cut back for a few

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months. And take your AlgaeCal Plus with breakfast and lunch or breakfast and mid-afternoon snack. Try taking a higher dose of time-released melatonin. If you are not already taking Strontium Boost, consider adding this. Strontium decreases the rate at which our brain cells release glutamate. In most people, strontium's effects on alutamate secretion promote relaxation and deeper, more restful sleep." Thanks for your questions, and good luck with your bone health

Got Questions About Your Bone Health? Get them answered in The AlgaeCal Community. Or send them directly to support@algaecal.com. We're here to help guide your bone health journey.



Lara Pizzorno BONE HEALTH EXPERT



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Carlie Avram COMMUNITY ENGAGEMENT SPECIALIST



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Stronger Bones. For Life[™]