BONE DENSITOMETRY

BONE MASS DENSITY CASE STUDIES

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Bone Mass Density

— SUMMARY SHEET —

Bone mineral density tests measure the amount of minerals in a specific area of bone. The more minerals, the denser the bone. It also helps determine the bone strength and risk for future fracture. Minerals are measured in grams; the area is measured in square centimeters, and bone mass density is described as grams per square centimeter.

A bone mineral density test is generally acknowledged as the best way to determine risk for future fractures. Since osteoporosis can develop undetected for decades until a fracture occurs, early diagnosis is important.

The T-score compares a person's bone density with that of **the average healthy young adult,** approximately 20 years old. T-scores are based on a statistical measure called the standard deviation, which reflects differences from the average score. Each increment below normal represents a 10% loss of bone. T-scores are used to help classify patients as normal, osteopenic (less dense than the normal population) or osteoporotic (very mineral deficient, at severe risk) according to their potential for developing osteoporosis.

A normal T-score is –1 or above (adequate bone density)

An osteopenic T-score is –1 to –2.5 (risk for fracture is twice as high as normal)

An osteoporotic T-score is –2.5 and below (risk for fracture is three times as high as normal; bone density is lower than 99% of a young adult)

The Z-score compares a person's bone density with others **in his/her same age group** and gender. A low Z-score is a warning that a person is losing bone more rapidly than his/her peers, and needs to be monitored more closely.

A normal Z-score is –1 or above (adequate bone density)

A low Z-score is –1 to –2.5 (lower than average bone mass; compared to peers, patient is in the lowest 1 to 14%)

A severely low Z-sore is less than 2.5% (the bone mass is lower than 99% of people the same age)

Therapy is recommended for women with T-scores below –2.0 and at –1.5 when other risk factors are present.

According to the World Health Organization, osteoporosis — a potentially crippling disease characterized by the loss of bone tissue and a susceptibility to fracture — afflicts an estimated 30% of all women past menopause. Most women lose one-fifth of their bone mass in the five to seven years following menopause.

Guidelines of Study

- Started with 55 volunteers.
  - 37 were taking Calcium Supplements
  - 14 were currently taking Eniva products
  - 6 were taking Fosamax or Actonel
- Each filled out a small case history
  - 1 Tablespoon of Cal-Mag and Phytamins morning and evening
  - 1 Ounce of Minerals daily
- Filled out an update with each mineral pickup
- Bone Density taken every 3 months
- Letter went to their Doctor

Results

3	months	16.3% increase
6	months	16.1% increase
9	months	34.8% increase
12	months	34% increase

Did see a drop in Bone Density at end of Winter.
Lack of sunlight appears to affect parathyroid gland.
Supplemented **Potassium Iodine** on a few subjects, and increased their bone density.

Results

Bone Density Research
T-Score by Age Group

	30-39			40-49			50-59			60-69			70-79			80-89	
Start	Finish	Time	Start	Finish	Time	Start	Finish	Time	Start	Finish	Time	Start	Finish	Time	Start	Finish	Time
-1	-0.1	1yr	0	-0.1	3mo	0.2	0.3	3mo	-1.4	-1.4	1yr	-2.4	-1.6	1yr	-1.2	-0.8	9mo
			0.6	0.7	6mo	-0.6	-0.3	1yr	-0.6	-1	1yr	-1.1	-0.4	1yr	0	0.4	1yr
			0.7	0.6	1yr	-1.2	-1.2	1yr	0	-0.3	1yr	-1.1	-0.8	1yr	-3.2	-3.1	1yr
			-0.2	-0.2	3mo	-0.8	0.2	1yr	-0.8	-0.8		-1.5	-0.9	1yr	-2.1	-2	1yr
						0.1	0.3	6mo	-1.5	-1.2	1yr	-0.1	0.3	1yr			
						-0.6	-0.6	1yr	-1.8	-1.8		-2.4	-1.9				
						-0.8	-0.3	1yr	-0.9	-1.1	1yr	-2.3	-1.7	1yr			
						-0.2	0.7		-0.9	-0.7	1yr	-0.3	-0.4	1yr			
						-0.2	0.5	1yr	0.1	0.4	1yr	-0.3	-0.2	1yr			
						-1.1	0.1	1yr	-1	-0.09	1yr	-2	-2	3mo			
						0.5	0.7	1yr									
						-1.2	-0.6	1yr									
						0.4	0.3	6mo									
						-8.0	-1	3mo									
-1	-0.1		0.28	0.25		-.05	-0.064		-0.88	-0.799		-1.4	-0.96		-1.6	-0.406	
	90			**-9.09**			**85.71**			**9.205**			**28.89**			**75**	
	1			4			14			10			10			4	

Bone Mass Density Case Study Summary Report

CASE STUDY 1

Patient Profile:	Active caucasian **female patient, 70 years of age** at the time of initial visit. Non-smoker, non-drinker, no caffeine and minimal dairy products with onset of menopause in late 60s. Patient did have a history of various fractures dating from the age of 22 to age 60. No use of medications or supplements were reported during the initial phase of study.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.327 grams based on a measured area of 3.457 cm^2. Her bone mass density (BMD) was 0.384 grams per cm^2. Her z-score was –1.0, and her t-score was –2.4.
Patient Treatment:	The patient was placed on a protocol of one ounce of Cell-Ready Minerals™, one tablespoon of Phytamins™ and one tablespoon of Cal-Mag per day. Exercise was also encouraged; 30 minutes of walking three times per week. This regimen was started November 6, 2002.
Post-Treatment Condition:	The patient's bone density was measured on January 15, 2004. The results showed a BMC of 1.507 grams, based on a measured area of 3.518 cm^2. Her bone mass density had increased to –1.6 grams per cm^2.

SUMMARY:	**Bone Mass Increase:**	**.8 = 8%**
	T-score Improvement:	**–2.4 to –1.6**
	Z-score Improvement:	**–1.0 to –0.3**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 2

Patient Profile:	Caucasian female patient, **74 years of age** at initial visit. Weight of 128. Non-smoker, very minimal alcohol and caffeine intake. Patient did have a moderate dairy intake. Patient did not have a significant medical history. Patient had currently been on a B-complex vitamin and Calcium tablet supplement. No medications were reported during the initial stage of the study.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) of 1.533 grams, based on a measured area of 3.352 cm^2. Her bone mass density (BMD) was 0.457 grams per cm^2. Her z-score was 0.2, and her t-score was –1.1.
Patient Treatment:	The patient was put on a protocol of one ounce of Cell-Ready Minerals™, one tablespoon Phytamins™, and one tablespoon of Cal-Mag per day. Exercise was also encouraged; 30 minutes of walking at a minimum of three times per week. This regimen was started November 8, 2002.
Post-Treatment Condition:	When bone density was measured on January 8, 2004, the results showed a BMC of 1.688 grams, based on a measured area of 3.424 cm^2. Her bone mass density had increased to –0.4 grams per cm^2.

SUMMARY:	**Bone Mass Increase:**	**.7 = 7%**
	T-score Improvement:	**–1.1 to –0.4**
	Z-score Improvement:	**0.2 to 0.8**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 5

Patient Profile:	Active caucasian female patient, **79 years of age** at the time of initial visit. Weight of 135. Non-smoker, non-drinker, no caffeine and minimal dairy products, with the onset of menopause at 35 years of age. Patient's medical history included: Hiatial hernia, diverticulitis, arthritis, dry eyes, dry mouth, and numbness of the fingers. Use of medications such as Prevacid and Difalconac were reported in the initial stage of the study.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.365 grams, based on a measured area of 3.077 cm^2. Her bone mass density (BMD) was 0.444 grams/cm^2. Her z-score was 0.4, and her t-score was –1.3.
Treatment Therapy:	Patient was placed on a protocol of one ounce of Cell-Ready Minerals™, one tablespoon of Phytamins™, and one tablespoon of Cal-Mag per day. Flaxseed twice daily, L-Glutamine 500 mg once per day, Progesterone Cream, Osteo Flex twice a day, Lutein for eyes twice a day. This regimen was started November 7, 2002. Exercise was encouraged; 30 minutes of walking three times per week.
Post-Treatment Condition:	Patient reported having an increase in energy, strength, and stamina. Exercise was also encouraged to continue 30 minutes of walking three times per week. When the bone mass density was measured the results showed a BMC of 1.560 grams, based on a measured area of 3.345 cm^2. Her bone mass density had increased to –0.9 grams per cm^2.

SUMMARY:	**Bone Mass Increase:**	**.4 = 4%**
	T-score Improvement:	**–1.3 to –0.9**
	Z-score Improvement:	**0.4 to 0.7**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 7

Patient Profile:	Caucasian female patient, 50 years of age with a weight of 145. Health history includes: non-smoker with no significant family history of osteoporosis. Currently exercising three times per week. Caffeine intake of two cups of coffee per day. Minimal intake of dairy products. Patient currently under significant stress – raising her 14-month old grandchild. Medical history: significant for hysterectomy at the age of 50 with no hormonal therapy. Sinus infections, pneumonia once, and asthma. Medications include: Singular, Lescol, Advair. Patient uses supplements such as: Eniva Cal-Mag, Minerals, Phytamins, Silver, and Flaxseed Oil.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.570 grams, based on a measured area of 3.347 cm^2. Her bone mass density (BMD) was 0.469 grams per cm^2. Her z-score was –0.5, and her t-score was –0.8. Her initial bone mass density was measured November 8, 2002.
Treatment Therapy:	The patient continued on the Eniva Minerals of one ounce per day, Eniva Phytamins one tablespoon per day, and Eniva Cal-Mag one tablespoon in am and pm. Her walking was increased significantly and eventually included aerobics.
Post-Treatment Condition:	Patient expressed having more energy and no longer took her Lescol. Her final bone mass density for this case study was measured on November 9, 2003. It was found the patient had a BMC of 1.548 grams, based on a measured area of 3.016 cm^2. Her bone mass density showed 0.462 per cm^2. Her z-score measured –0.6 and her t-score –1.0.
Risk Factors:	**Patient was caucasian of small stature and under significant stress at time of study. Patient also continued to drink coffee of two cups per day, demonstrating the negative effect of stress and caffeine on bone density.**

SUMMARY:	**Bone Mass Decrease:**	**0.469 to 0.462 = .7%**
	T-score Decrease:	**–0.8 to –1.0 = .2%**
	Duration of Consumption:	**12 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 10

Patient Profile:	Caucasian female patient, 72 years of age. Health history includes: non-smoker with no significant exercise program prior to starting study. Significant medical history: hysterectomy at approximately 58 years of age with use of hormonal therapy, cardiac involvement, cataracts, asthma, and gastrointestinal challenges. No family history of osteoporosis. History did include multiple medications: Tegretol, Betapace, Cyerin, Lasix, Micro-K,Leroxyl, Zantac,Antivert,Vacenase, Aspirin. Minimal supplements in pill form including Vitamin E, Vitamin C, Calcium, and Vitamin D.
Pre-Treatment Condition:	Patient initial bone mass content (BMC) was 1.767 grams, based on a measured area of 3.479 cm^2. Her bone mass density (BMD) was 0.508 grams per cm^2. Her z-score was 0.8, and her t-score was –0.1. Her initial bone density was measured on November 8, 2002.
Treatment Therapy:	The patient was put on a protocol of one tablespoon of Eniva Cell-Ready Minerals in am and pm, one tablespoon of Eniva Phytamins per day, and one tablespoon of Eniva Cal-Mag in am and pm. Exercise was encouraged in the form of walking 30 minutes, a minimum of 3 times per week.
Post-Treatment Condition:	Patient expressed having more energy and Premarin was discontinued during study. When bone mass density was measured on November 14, 2003 it was found the patient had a BMC of 1.872 grams based on a measured area of 3.527 cm^2. Her bone mass density increased to 0.531 grams per cm^2. Her z-score had improved to 1.2 and her t-score to 0.3.

SUMMARY:	**Bone Mass Increase:**	**1.364%**
	T-score Improvement:	**–0.1 to 0.3**
	Z-score Improvement:	**0.8 to 1.2**
	Duration of Consumption:	**12 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 11

Patient Profile:	Caucasian female patient, 69 years of age. Health history includes: Non-smoker, occasional alcoholic beverage consisting of one glass of wine per day, caffeine intake of 2 cups of coffee per day. No exercise mentioned in beginning of study. Medical history includes: post hysterectomy at 58 years of age with no hormonal therapy. No family history of osteoporosis. Past supplements included: Ginko and multivitamin and mineral supplements in pill form.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) of 1.523 grams, based on a measured area of 3.309 cm^2. Her bone mass density (BMD) was 0.460 grams per cm^2. Her z-score was 0.0, and her t-score was –1.0. Analysis: **Osteopenia**. Her initial bone density was measured on November 8, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva Essential Minerals one ounce per day, Eniva Phytamins one tablespoon in am and one in pm, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged such as walking 30 minutes, a minimum of three times per week.
Post-Treatment Condition:	Patient described feeling more energetic during study. When bone mass density was measured on January 16, 2004, it was found the patient had a BMC of 1.620 grams, based on a measured area of 3.478 cm^2. Her bone mass density had increased to 0.466 grams per cm^2. Her z-score had improved to 0.2 and her t-score improved to –0.9. Analysis: **Normal**

SUMMARY:	**Bone Mass Increase:**	**.006%**
	T-score Improvement:	**–1.0 to –0.9**
	Z-score Improvement:	**0.0 to 0.2**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 12

Patient Profile:	Caucasian female patient, 60 years of age at time of study. Weight of 150. Health history includes: occasional walking, non-smoker, occasional soda drinks, non-dairy drinker, no family history of osteoporosis. Medical history significant: mitral valve prolapse, hiatial hernia, no medications. Not taking supplements at beginning of study.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.776 grams, based on a measured area of 3.426 cm^2. Her bone mass density (BMD) was 0.518 grams per cm^2. Her z-score was 0.4, and her t-score 0.1. Her initial bone density was measured on November 8, 2002.
Treatment Therapy:	The patient was put on Eniva Cell-Ready Minerals one ounce per day, Eniva Phytamins one tablespoon per day, Eniva Cal-Mag one tablespoon in am and pm. Patient was encouraged to walk for 30 minutes, a minimum of three times per week.
Post-Treatment Condition:	The patient expressed an increase in energy during study. When bone mass density was measured on November 11, 2003, it was found the patient had a BMC of 1,863 grams, based on a measured area of 3.483 cm^2. Her bone mass density had increased to 0.535 grams per cm^2. Her z-score had improved to 0.7 and her t-score had improved to 0.4.

SUMMARY:	**Bone Mass Increase:**	**.3%**
	T-score Improvement:	**0.1 to 0.4**
	Z-score Improvement:	**0.4 to 0.7**
	Duration of Consumption:	**12 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 14

Patient Profile:	Caucasian female patient, 68 years of age. Weight 144. Health history: exercise consists of walking 45 minutes, three to four times per week. Non-smoker, does drink one to two cups of coffee per day. Medical history: post hysterectomy at age of 50, no hormonal treatment. A sister with a history of osteoporosis. No medications. Supplements include multivitamin in pill form, Citracal and kelp.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.740 grams, based on a measured area of 3.746 cm^2. Her bone mass density (BMD) was 0.465 grams per cm^2. Her z-score was 0.0, and her t-score was –0.9. Her initial bone density was measured on November 11, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva Cell-Ready Minerals one ounce per day, Eniva Phytamins one tablespoon per day, Eniva Cal-Mag one tablespoon each in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on December 12, 2003, it was found the patient had a BMC of 1.823 grams, based on a measured area of 3.810 cm^2. Her bone mass density had increased to 0.478 grams per cm^2. Her z-score had improved to 0.3 and her t-score improved to –0.7.

SUMMARY:	**Bone Mass Increase:**	**2%**
	T-score Improvement:	**–0.9 to –0.7**
	Z-score Improvement:	**0.0 to 0.3**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 15

Patient Profile:	Caucasian female patient, 84 years of age. Weight 115 pounds. Health history: exercise consists of walking on treadmill everyday. Non-smoker, does not drink alcohol. Does drink one cup of coffee per day. Does not use dairy products. Supplements include: Eniva's Phytamins, Potassium, Cal-Mag, Multivitamin, fish oil, CoQ10. Medical history significant for hysterectomy in 1964, no hormonal therapy. No medications.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) of 1.207 grams, based on a measured area of 2.983 cm^2. Her bone mass density (BMD) was 0.405 grams per cm^2. Her z-score was 0.1, and her t-score was –2.1. Her initial bone density was measured on November 12, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	Patient described feeling more energetic, better attitude, regular bowel movements while on protocol. When bone mass density was measured on January 16, 2004, it was found the patient had a BMC of 1.189 grams, based on a measured area of 2.905 cm^2. Her bone mass density had increased to 0.409 grams per cm^2. Her z-score had improved to 0.3 and her t-score had improved to –2.0.

SUMMARY:	**T-score Improvement:**	**–2.1 to –2.0**
	Z-score Improvement:	**0.1 to 0.3**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 16

Patient Profile:	Caucasian female patient, 59 years of age. Weight of 186. Health history: non-smoker, occasional alcohol beverage, coffee approximately 3 cups per day, does not exercise at any significant level. No family history of osteoporosis. Supplements include: Eniva's liquid BioChlor, Garlic, Vitamin E and C in pill form, Colostrum, Eniva's Enzymes, Ellagic Acid. Medical history: low thyroid, menopausal. Medications: Armour Thyroid.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.439 grams, based on a measured area of 3.919 cm^2. Her bone mass density (BMD) was 0.451 grams per cm^2. Her z-score was –0.5, and her t-score was –1.2. Analysis: **Osteopenia.** The initial bone density was measured on November 12, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum on three times per week.
Post-Treatment Condition:	Patient was started on protocol by spraying Cal-Mag on body and gradually increased consumption to taking internally. Patient described initial regulation of bowel habits. Increased exercise and noted stamina. When bone mass density was measured on January 16, 2004, it was found the patient had a BMC of 1.655 grams, based on a measured area of 3.016 cm^2. Her bone mass density had increased to 0.483 grams per cm^2. Her z-score had improved to –0.1 and her t-score improved to –0.6. Analysis: **Normal.**

SUMMARY:	**Bone Mass Increase:**	**6%**
	T-score Improvement:	**–1.2 to –0.6**
	Z-score Improvement:	**–0.5 to –0.1**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 20

Patient Profile:	Caucasian female patient, 33 years of age. Weight 90 pounds. Health history: minimal exercise, non-smoker, does not drink alcohol, soda, or caffeine. Occasional dairy products. Supplements include: Eniva's Magnesium, Eniva's Iron and Cell-Ready Minerals. Medical history: significant fractures at the age of 7 in left leg, spleenectomy, closed head injury. Medications: none.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.239 grams, based on a measured area of 2.677 cm^2. Her bone mass density (BMD) was 0.463 grams per cm^2. Her z-score was –1.1 and her t-score was –1.0.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking for a minimum of three times per month.
Post-Treatment Condition:	When bone mass density was measured on December 8, 2003, it was found the patient had a BMC of 1.433 grams, based on a measured area of 0.507 cm^2. Her bone mass density had increased to 0.507 grams per cm^2. Her z-score had improved to –0.3 and her t-score improved to –0.1.

SUMMARY:	**Bone Mass Increase:**	**9%**
	T-score Improvement:	**–1.0 to –0.1**
	Z-score Improvement:	**–1.1 to –0.3**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 22

Patient Profile:	Caucasian female patient, 73 years of age. Weight 165. Health history: Occasional exercise, non-smoker, occasional alcoholic beverage, one cup of coffee per day. Medical history: Post-menopausal, no hormonal therapy and occasional bronchitis. Medications: none. Supplements include: Eniva's Cal-Mag, Phytamins, Flex, Magnesium, Potassium, B-Complex, BioChlor, Muscle Aid, Vitamin C, CoQ10, Iron, Enzymes, Copper, Vanadium, and fish oil.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) of 1.386 grams, based on a measured area of 3.572 cm^2. Her bone mass density (BMD) was 0.388 grams per cm^2. Her z-score was –0.8, and her t-score was –2.4. The initial bone density was measured on November 19, 2002.
Treatment Therapy:	The patient was put on a protocol of Envia's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on January 1, 2004, it was found the patient had a BMC of 1.549 grams, based on a measured area of 3.753 cm^2. Her bone mass density had increased to 0.413 grams per cm^2. Her z-score had improved to –0.4 and her t-score had improved to –1.9.

SUMMARY:	**Bone Mass Increase:**	**5%**
	T-score Improvement:	**–2.4 to –1.9**
	Z-score Improvement:	**–0.8 to –0.4**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 24

Patient Profile:	Caucasian female patient, 57 years of age. Weight of 140. Health history: exercises twice per week, non-smoker, does not drink alcoholic beverage, does drink two cups of coffee per day. Does consume dairy products once per day and red meats twice per week. Supplements include: Eniva's Copper mineral, Cal-Mag, Vitamin C, and E. Medical history: hysterectomy at the age of 50, no hormonal therapy. Varicose veins. Medications: none.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.641 grams, based on a measured area of 3.045 cm^2. Her bone mass density (BMD) was 0.539 grams per cm^2. Her z-score was 0.6, and her t-score was 0.5. The initial bone density was measured on November 26, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon a day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	The patient expressed having more energy after starting protocol. When bone mass density was measured on January 15, 2004, it was found the patient had a BMC of 1.879 grams per cm^2. Her bone mass density had increased to 0.551 grams per cm^2. Her z-score had improved to 0.8 and her t-score had improved to 0.7.

SUMMARY:	**Bone Mass Increase:**	**.2%**
	T-score Improvement:	**0.5 to 0.7**
	Z-score Improvement:	**0.6 to 0.8**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 26

Patient Profile:	Caucasian female patient, 52 years of age. Weight of 164. Health history: non-smoker, does not drink alcoholic beverages, exercises using treadmill twice per week. Does not drink carbonated beverages, no red meats and no dairy intake. Supplements include: various liquid herbs, vitamins in pill form A and D, MSM, Osteo-B plus, Acidophilus, Life Source green drink, soy powder, Super Green algae. Medical history: hysterectomy at age 51, non-hormonal therapy. Medications: none.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.473 grams, based on a measured area of 3.220 cm^2. Her bone mass density (BMD) was 0.458 grams per cm^2. Her z-score was –0.6 and her t-score was –1.1. Analysis: **Osteopenia**.
Treatment Therapy:	The patient was put on Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon a day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone density was measured on December 22, 2003, it was found the patient had a BMC of 1.767 grams, based on a measured area of 3.420 cm^2. Her bone mass density had increased to 0.517 grams per cm^2. Her z-score had improved to 0.2 and her t-score had improved to 0.1. Analysis: **Normal**

SUMMARY:	**Bone Mass Increase:**	**10 %**
	T-score Improvement:	**–1.1 to 0.1**
	Z-score Improvement:	**–0.6 to 0.2**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 27

Patient Profile:	Caucasian female patient, 60 years of age. Weight of 125. Health history: non-smoker, does not exercise, drinks two cups of coffee per day, does not drink alcoholic beverages. Supplements include: vitamins in pill form, Glucosamine, Folic Acid. Medical history: hypothyroid, arthritis, family history of osteoporosis. Medications: Synthroid, Methotrexate, Prednisone, Plaquenil.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.656 grams, based on a measured area of 3.971 cm^2. Her bone mass density (BMD) was 0.417 grams per cm^2. Her z-score was –0.9 and her t-score was –1.8. The initial bone density was measured on November 27, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on January 19, 2004, the BMC was 1.648 grams, based on a measured area of 3.950 cm^2. Her bone mass density maintained at 0.417 grams per cm^2. Her z-score had maintained at –0.9 and her t-score maintained at –1.8.
Risk factors:	**Caucasian small-framed woman. Caffeine intake of two cups of coffee per day. The inability to exercise. Steroid-based medications. Methotrexate increased twice during study. The ability to maintain bone mass under these conditions was impressive.**

SUMMARY:	**T-score:**	**–1.8 to –1.8**
	Z-score:	**–0.9 to –0.9**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 28

Patient Profile:	Caucasian female patient, 62 years of age. Weight of 103. Health history: walks every day, lifts weight 15 minutes per day. Non-smoker, does not drink alcoholic beverages, drinks 1-2 cups per day of coffee. Supplements include: Eniva's Cal-Mag, Cell-Ready Minerals, Phytamins, Zinc, Germanium, Selenium, Iodine, Chlorphyll, Muscle Aid. Medical history: mother with osteoporosis, hysterectomy at age 46, no hormonal therapy, Graves disease, systemic yeast condition. Medications: Synthroid.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) 1.308 grams, based on a measured area of 3.003 cm^2. Her bone mass density (BMD) was 0.438 grams per cm^2. Her z-score was –0.6, and her t-score was –1.5. The initial bone density was measured on December 5, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon in am and pm, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on January 7, 2004, it was found the patient had a BMC of 1.466 grams, based on a measured area of 3.252 cm^2. Her bone mass density had increased to 0.451 grams per cm^2. Her z-score had improved to –0.4 and her t-score improved to –1.2.

SUMMARY:	**Bone Mass Increase:**	**.3%**
	T-score Improvement:	**–1.5 to –1.2**
	Z-score Improvement:	**–0.6 to –0.4**
	Duration of Consumption:	**14 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 29

Patient Profile:	Caucasian female patient, 57 years old. Weight 175. Health history: non-smoker, does not exercise, does not drink alcoholic beverages, drinks three cups of coffee per day. Supplements include: Eniva's Cell-Ready Minerals. Medical history: significant for hysterectomy at the age of 36, no hormonal therapy. No family history of osteoporosis.
Pre-Treatment Condition:	The patient had a bone mass content of (BMC) of 1.450 grams, based on a measured area of 2.898 cm^2. Her bone mass density (BMD) was 0.501 grams per cm^2. Her z-score was 0.1, and her t-score was –0.2. The initial bone density was measured on December 9, 2002.
Treatment Therapy:	The patient was put on a protocol of Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on December 9, 2002, it was found the patient had a BMC of 1.799 grams, based on a measured area of 3.316 cm^2. Her bone mass density had increased to 0.542 grams per cm^2. Her z-score had improved to 0.7 and her t-score improved to 0.5.

SUMMARY:	**Bone Mass Increase:**	**13.2%**
	T-score Improvement:	**–0.2 to 0.5**
	Z-score Improvement:	**0.1 to 0.7**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 31

Patient Profile:	Caucasian male patient, 55 years of age. Weight 230. Health history: sedentary lifestyle, non smoker, occasional alcoholic beverages, drinks 3 cups of coffee and one soda per day. Supplements include: multivitamin in pill form, "super green pill" twice daily. Medical history: menopause, no hormonal therapy, no family history of osteoporosis, hypercholesterolemia, acid reflux. Medications: Lipitor, Prevacid.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 2.128 grams based on a measured area of 3.626 cm^2. His bone mass density (BMD) was 0.587 grams per cm^2. His z-score was –0.4 and his t-score was –0.2. The initial bone density was measured on December 9, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day. Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise encouraged; 30 minutes walking a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on January 16, 2004, it was found the patient had a BMC of 2.434 grams, based on a measured area of 3.823 cm^2. His bone mass density had increased to 0.637 grams per cm^2. His z-score had improved to 0.3 and his t-score improved to 0.7.

SUMMARY:	**Bone Mass Increase:**	**15%**
	T-score Improvement:	**–0.2 to 0.7**
	Z-score Improvement:	**–0.4 to 0.3**

Bone Mass Density Case Study Summary Report

CASE STUDY 32

Patient Profile:	Caucasian female patient, 55 years of age. Weight 138. Health history: exercises 3-4 days per week at Curves, non smoker, occasional alcoholic beverage, one to two cans of soda per day. Supplements include: Calcium in pill form. Medical history: osteoporosis, hysterectomy 1991, no hormonal therapy, no family history of osteoporosis. Medications: Actonol 35 mg, Evista 60mg daily.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.7322 grams, based on a measured area of 3.674 cm^2. Her bone mass density (BMD) was 0.472 grams per cm^2. Her z-score was –0.4, and her t-score was –0.8. The initial bone density was measured on December 10, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged by walking 30 minutes for a minimum of three times per week.
Post-Treatment Condition:	When bone mass density was measured on December 10, 2003, it was found the patient had a BMC of 1.844 grams, based on a measured area of 3.724 cm^2. Her bone mass density had increased to 0.495 grams per cm^2. Her z-score had improved to 0.0 and her t-score improved to –0.3.

SUMMARY:	**Bone Mass Increase:**	**5%**
	T-score Improvement:	**–0.8 to –0.3**
	Z-score Improvement:	**–0.4 to 0.0**
	Duration of Consumption:	**13 months**

Bone Mass Density Case Study Summary Report

CASE STUDY 34

Patient Profile: Caucasian female patient, 58 years of age. Weight 114. Health history: Active individual exercising 1-3 times per week, non-smoker, does not drink alcoholic beverages, nor soda. Supplements included: multivitamin and calcium in pill form. Medical history: menopausal, hormonal treatment, irritable bowel syndrome. Medication: Prempro and Ativan.

Pre-Treatment Condition: The patient had a bone mass content (BMC) of 1.846 grams, based on a measured area of 3.363 cm^2. Her bone mass density (BMD) was 0.549 grams per cm^2. Her z-score was 0.0 and her t-score was –0.6. The initial bone density was measured on December 10, 2002.

Treatment Therapy: The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon a day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; walking 30 minutes a minimum of three times per week.

Post-Treatment Condition: It was noted, the patient was not taking the entire amount suggested. A medication Nexium was added for gastric reflux. When bone mass density was measured on January 16, 2004, it was found the patient had a BMC of 1.882 grams, based on a measured area of 3.434 cm^2. Her bone mass density 0.548 grams per cm^2. Her z-score had improved to 0.1 and her t-score maintained at –0.6 .

SUMMARY: Bone Mass Maintained

T-score Maintained At: –0.6

Z-score Improvement: 0.0 to 0.1

Duration of Consumption: 13 months

Bone Mass Density Case Study Summary Report

CASE STUDY 45

Patient Profile:	Caucasian female patient, 80 years of age. Weight of 140. Health history: active non-smoker, uses no caffeine, minimal dairy intake. Supplements include: Osteo Biflex, Calcium, Vitamin E, and Iron in pill form. Medical history: strong family history for osteoporosis, no hormonal therapy, colostomy. Medications: Tenormin, Xanax, Ismo, Pletal, Lopid, Coumadin, Wygesic.
Pre-Treatment Condition:	The patient had a bone mass content (BMC) of 1.550 grams, based on a measured area of 3.461 cm^2. Her bone mass density (BMD) was 0.448 grams per cm^2. Her z-score was 0.5, and her t-score was –1.2. Analysis: **Osteopenia.** The initial bone density was measured on December 16, 2002.
Treatment Therapy:	The patient was put on a protocol of Eniva's Cell-Ready Minerals one ounce per day, Eniva's Phytamins one tablespoon per day, Eniva's Cal-Mag one tablespoon in am and pm. Exercise was encouraged; 30 minutes of walking a minimum of three times per week.
Post-Treatment Condition:	Patient noted a decrease in pain in both lumbar and shoulder region. When bone mass density was measured on August 8, 2003, it was found the patient had a BMC of 1.709 grams, based on a measured area of 3.637 cm^2. Her bone mass density had increased to 0.470 grams per cm^2. Her z-score had improved to 0.9 and her t-score had improved to –0.8. Analysis: **Normal.**

SUMMARY:	**Bone Mass Increase:**	**4%**
	T-score Improvement:	**-1.2 to -0.8**
	Z-score Improvement:	**0.5 to 0.9**
	Duration of Consumption:	**9 months**