

Patch Studies Summary

X49 Patch Study

Bone and Muscle Support in Ageing Women with Life Wave X49 Patch

In a recent study published in the Biomedical Journal of Scientific & Technical Research, researchers found that X49 supports bone and muscle health in ageing women. ♦♦ Throughout the study, women aged 40-80 wore the X49 patch for 60 days. In most of them, X49 elevated the production of the natural peptide AHK-cu, as well as certain essential amino acids, leading researchers to "strongly suggest that X49 decreases the breakdown of bone during the cycle of bone repair.

<https://cdn.sanity.io/.../4ac1d7cfce43327eac207f731c88323...>

X39 Patch Studies

A Double-Blind, Placebo-Controlled Study of the LifeWave Technology as it Relates to the Improvement of Strength endurance in high-performance college athletics

Based on the data collected and the results obtained it was demonstrated that the LifeWave technology is a method for the improvement of athletic performance, and more particularly a means by which an individual may increase their net stamina/strength endurance output.

<https://cdn.sanity.io/.../58ca028e5894bc53e860472299e262f...>

Double-Blind Testing of the Lifewave X39 Patch to Determine GHK-Cu Production Levels

A double-blind test published in the journal Internal Medicine Research showed a significant increase in copper-peptide concentrations in the blood of subjects who had worn patches X39 patches for 1 week.

<https://cdn.sanity.io/.../8a5cac96f857e8b0c9ded076518f40d...>

Phototherapy Induced Metabolism Change Produced by the LifeWave X39 Non-transdermal Patch

A double-blind randomized control study published in the International Journal of Research Studies in Medical and Health Sciences revealed that X39 patches caused a significant increase in the production of 8 amino acids, which improved short-term memory, sleep, and vitality.

<https://cdn.sanity.io/.../04b42a41b6b6591004dab59a184ee71...>

Changes in Tripeptides Produced by the LifeWave X39 Patch

This pilot study explored changes in amounts of GHK and GHK-Cu present in blood due to wearing the LifeWave X39 patch for 1 week. There was a significant increase of GHK in blood seen at and again at 7 days.

<https://cdn.sanity.io/.../befe381e4ca193f72aa698a3238c8f3...>

Experimental Study of LifeWave, Inc. X39 Patches

The pilot study demonstrates a statistically significant positive changes in the biofields of members of the experimental group when compared to the control group.

<https://cdn.sanity.io/.../a6c7b37f3d754fdf636feb5c1664ffe...>

LifeWave X39 Pilot Demonstrates Light Triggered Changes

The purpose of this study was to determine if metabolic and physiological changes were produced by participants wearing the LifeWave non-transdermal X39 phototherapy patch. While this is a small sample of convenience, the positive results in this study suggest that further investigation needs to be done. Both the effect that appears to produce a number of significant amino acid changes in a short period of time and the improvement in short-term memory, which are particularly relevant to an ageing population, should be explored.

<https://cdn.sanity.io/.../332666d884e3325186a7cbbb888d2f3...>

Non-Invasive Scanning and Subtle Energy Testing Lab Effect of LifeWave X39 Patches on Brain as Seen with P3 Brain Mapping: Preliminary Results

The purpose of this pilot project was to use brain mapping to assess any differences in brain function after using LifeWave X39 patches for 6 weeks. The majority of participants started

with an overactive brain, and their brains calmed down significantly after 3 weeks of wearing the X39 patch.

<https://cdn.sanity.io/.../73b1cafb1839d1905a6d1fe76623358...>

Gloot Patch Studies

A New Way to Increase Gloot Levels in the Body

All participants had increases in blood levels of gloot during the period of study as compared to the base line. Found increases of up to 300% above baseline in the first 24 hours.

<https://cdn.sanity.io/.../94e09cce5cff7cd23812a91653b3006...>

Clinical Evaluation of an Anti-Acne Test System of Gloot Patches and LifeWave Homeopathic Spray

A board-certified dermatologist examined the faces of 40 study participants after 2, 3, 4, and 6 weeks of Gloot patch wear. There was significant improvement in open comedones, closed comedones and mean acne grade over that time.

NB. Old study - LifeWave no longer sells the homeopathic sprays.

<https://cdn.sanity.io/.../42f6406bc17ec0630957622816d354e...>

LifeWave Patches Research (IceWave and Gloot)

It seems clear that the LifeWave IceWave patches have a profound effect on pain management and LifeWave Gloot patches have a profound effect in detoxification. In addition to the analysis part of the data, during experiments changes witnessed in the biofield were strongly positive in the after scans.

<https://cdn.sanity.io/.../9d55601b68a3d5c8fd4ea8de4acb66d...>

Case Studies on the Effect of LifeWave Energy Enhancer, IceWave, Gloot Patches on Human Energy Field

The majority of study participants wearing the patches showed positive changes in their biofields.

<https://cdn.sanity.io/.../4dadcd5cf63f412009052947aa02c00a...>

Gas Discharge Visualization of LifeWave Gloot Patches

This was a double-blind placebo controlled randomized pilot study of 10 active and 10 control healthy subjects aged 30 and above using the sealed FDA-registered homeopathic Gloot patch made by the Lifewave Corporation and placed at the CV6 acupuncture point.

<https://cdn.sanity.io/.../90ecc9f8e09fcdf070f363078b01f22...>

Nanoscale Gloot Patches Improve Organ Function

This study provides supportive evidence that stimulation of an acupuncture point (CV6) by Y-age Gloot patches improves the physiological functional status of 7 organs as measured by an Electro Interstitial Scanning (EIS) system. Improvement in organ function is supportive of an anti-aging claim. Specifically, this study provides data indicative of the Y-age Gloot patch is more effective in improving cellular organ function, when worn daily instead of only five days per week.

<https://cdn.sanity.io/.../94e09cce5cff7cd23812a91653b3006...>

Report for Human Clinical Pilot Study LifeWave Gloot Patch

A pilot human clinical study examined the efficacy of the LifeWave Gloot Patch to increase blood gloot on nine healthy subjects. This study also measured enzymes of the gloot pathway (Gloot S-transferase and Reductase) to determine possible mechanisms of action of the patch. To determine whether the LifeWave patches improve detoxification, urine mercury was measured. Results indicate that Life Wave Patches significantly increased blood gloot and had no overall effect on GSH enzymes. Urine mercury was elevated in some of the subjects.

<https://cdn.sanity.io/.../d9a17f4666be2f10499f3fe39cba174...>

Icewave Patch Studies

LifeWave Strength Test at Morehouse College

In this double-blind, placebo-controlled study, 44 student athletes at Morehouse wore either real LifeWave patches or placebo patches. The participants in the LifeWave group experienced a much greater average improvement in repetitions of 225 lb. and 185 lb. bench press—even after an intense 60-minute upper-body workout:

* The placebo group experienced an average improvement in repetitions from Monday to Thursday of 4.9%.◆

* The LifeWave group experienced an average improvement in repetitions from Monday to Thursday of 34%.◆

<https://cdn.sanity.io/.../11ece8b383e55be9d750745bf56cd10...>

A Double-Blind Placebo Controlled Clinical Efficacy Evaluation of a Patch to Soothe Knee Pain

This study showed the effectiveness of IceWave patches in subjects with pain, inflammation, contracture and muscular tension. Improvements in range of motion and an almost immediate effect were noted. Improvements were noted in subjects with neck pain (cervical), back pain (lumbar), shoulder pain, knee pain, foot pain, toe pain, and eye pain.

<https://cdn.sanity.io/.../1c210b25972f550a7cd7b4a6b0dcc0d...>

LifeWave Scientific Study by Means of an NM4 Gauge

This study, involving over 100 patients, demonstrated that the use of the IceWave class 1 medical device for pain control had a very important and almost immediate effect on the moderation of the muscular contractions and tensions, as well as of associated pain.

<https://cdn.sanity.io/.../8c611a9d29a3b0c8e5cc93c0a0ee32a...>

A Placebo-Controlled Randomized Study on the Effects of IceWave Patches on the Reduction of Pain

The treatment group showed a significant difference in reduction of pain over the 7 days compared with the control group ($p < 0.0001$).

<https://cdn.sanity.io/.../3cd901387e59bcb6117080ee96f528b...>

Case Studies on the Effect of LifeWave Energy Enhancer, IceWave, Gloom Patches on Human Energy Field

The majority of study participants wearing the patches showed positive changes in their biofields.

<https://cdn.sanity.io/.../4dacd5cf63f412009052947aa02c00a...>

Effect of IceWave Organic Nanoscale Patches on Reduction of Musculoskeletal Pain

This study clearly showed that use of the IceWave patch decreased subject's perception of pain as soon as one hour after application.

<https://cdn.sanity.io/.../4dacd5cf63f412009052947aa02c00a...>

Infrared Thermal Imaging Quantifies the Efficacy of IceWave Patches in Musculoskeletal Pain Relief in Horses

This study demonstrated a reduction in back pain in 38 horses with a confirmation of a reduction in inflammation by an objective test called infrared thermal imaging. Infrared thermal imaging, also known in the literature as medical infrared thermal imaging, is a non-invasive diagnostic imaging procedure which detects and records surface skin temperatures by measuring the variations in heat that is spontaneously emitted from body surfaces. Since heat dissipation through the surface skin is mainly in the form of infrared radiation, infrared thermal imaging offers an effective way to study the physiology of thermoregulation and the thermal dysfunction associated with pain.

<https://cdn.sanity.io/.../1c210b25972f550a7cd7b4a6b0dcc0d...>

Investigative Study of Biochemical Effects of LifeWave Patches Using Bio-explorer Technology

This study showed the effectiveness of IceWave patches on chronic back pain and demonstrated an anti-inflammatory response.

<https://cdn.sanity.io/.../1c210b25972f550a7cd7b4a6b0dcc0d...>

LifeWave Patches Research (IceWave and Gloom)

It seems clear that the LifeWave IceWave patches have a profound effect on pain management and LifeWave Gloom patches have a profound effect in detoxification. In addition to the analysis part of the data, during experiments changes witnessed in the biofield were strongly positive in the after scans.

<https://cdn.sanity.io/.../9d55601b68a3d5c8fd4ea8de4acb66d...>

LifeWave Research Study, World Peace Centre

This study showed the effectiveness of IceWave patches in almost 90% of subjects.

Maximum changes were seen in the muscles of the hand, mid and lower back, and neck.

These are the same locations that subjects in other studies have experienced pain relief. Use of these objective instruments demonstrates that physiological changes are being measured when IceWave patches are worn.

<https://cdn.sanity.io/.../1c210b25972f550a7cd7b4a6b0dcc0d...>

Nanoscale Wearable Devices Reduce Qualitative and Quantitative Measures of Neuromuscular Pain

This study showed the effectiveness of IceWave patches in a number of diverse pain conditions ranging from arthritic, lower back, neck, shoulder, sciatic, sports-related, car accident-related, scapular, and knee pain.

<https://cdn.sanity.io/.../1c210b25972f550a7cd7b4a6b0dcc0d...>

Open-label Pain Study Comparing the Effects of the IceWave Pain Patches to the Regular Treatment of Various Pain Medications

The FAPC results revealed that in general there were no statistically significant differences between the level of pain while performing a variety of demanding tasks and the baseline pain in the painful areas. This could be interpreted as follows: usage of IceWave patches and pain meds could not eliminate the cause of pain; however, they were effective in ameliorating the qualitative and quantitative measures of pain

<https://cdn.sanity.io/.../7a943de0646845fe50db175b1e826dc...>

Osteoarthritis Double-Blind Placebo Controlled LifeWave Med Pain Relief Study

LifeWave IceWave patches were shown to reduce pain significantly as compared to placebo one hour after application. Study found that 93% patients experienced relief.

<https://cdn.sanity.io/.../52b4f8f0cd477a827984603b4534e0e...>

Summary of IceWave Clinical Research Study – Infrared Imaging

The LifeWave IceWave patches create a cooling response to skin temperature readings.

<https://cdn.sanity.io/.../7ee89730cdb3ba923001b298af3fcc0...>

Energy Enhancer Patch Studies

Effect of Novel Nanoscale Energy Patches on Spectral and Nonlinear Dynamic Features of Heart Rate Variability Signals in Healthy Individuals During Rest and Exercise

Scientists at the University of Texas at El Paso and Flinders University of South Australia found that Energy Enhancer patches had significant and clearly distinguishable effects on important heart-rate variability signal features.

<https://cdn.sanity.io/.../6cc1b7e6615947a569b56d74a575324...>

Effects of Energy Enhancer Patches on Cortisol Production, Peripheral Circulation, and Psychological Measures: A Pilot Study

This study confirms that Energy Enhancer has significant metabolic effects, which increase energy, stamina and performance. These results include a substantial improvement in maximum aerobic capacity.

<https://cdn.sanity.io/.../bb5c1e3638d4e5bea54ec1f5e46c2a1...>

Effects of LifeWave Patches on Acupuncture Meridians & Biophoton Emission in Human Subjects (pilot study)

This infrared study demonstrates both local and whole-body effects occur as demonstrated by thermal changes both locally and distal to the site of application of the patches. This

study also showed that reduction in temperature and inflammation was also measurable within five (5) minutes. This study is supportive of a device that modifies physiological processes in the body. This study also provides support that the Energy Enhancer patches have a physiological response on the autonomic nervous system.

<https://cdn.sanity.io/.../0412300a77b621de25a40d5bc372e7a...>

Acuscope and Skin Conductance along Meridians: Before and After LifeWave Energy Patches

This study examined the effect of the Energy Enhancer patches on meridian conductance at four different acupuncture points measured by a biofeedback instrument. This study was based on the premise that energy flow throughout the body is transmitted through the meridian pathways. The study did show that skin conductance increases with the application of the Energy patch device to acupuncture points. Increasing skin conductance is evidence of a physiological change in the body.

<https://cdn.sanity.io/.../381dc15e7fe2c2a10732547d5e1e9f3...>

Biocoherence and Lifewave Energy Enhancement Patches Utilizing Bionetic-Feedback Assessment

Overall changes in modulation, amplitudes, and energy distribution were noted in this study. Comparison between initial readings and final readings when patches were worn demonstrated shifts in available energy potentials between 18-33% over baseline data for all test subjects. In summary, Energy Enhancer patches did promote a renormalization or increase in biocoherence.

<https://cdn.sanity.io/.../74d1853cbcce0fe2543bec26dc53be0...>

Case Studies on the Effect of LifeWave Energy Enhancer, IceWave, Gloom Patches on Human Energy Field

The majority of study participants wearing the patches showed positive changes in their biofields.

<https://cdn.sanity.io/.../4dad5cf63f412009052947aa02c00a...>

Characterizing the Effect of the Energy Emitted by LifeWave Patches on Human DNA
This study is designed to demonstrate that Lifewave Energy Enhancer and Y-Age Aeon patches emit an energy field and to develop a cell-free in-vitro bioassay for this emitted energy. Human DNA was used as a target biomolecule because it is known to respond to both classical and non-classical electromagnetic (EM) fields.

NB. Study found different resonance frequencies attributed to each patch. Also found that these energies were interacting with the human DNA of the subject being patched. Aeon, Energy Enhancer and SP6 patches are actually affecting the quantum property of DNA at the bimolecular level.

<https://cdn.sanity.io/.../2932b96b03060bd695b3ac8b5ff30da...>

Heart Rate Variability Enhancement Through Nanotechnology: A Double Blind Randomized-Control Pilot Study

These results suggest that LifeWave Energy Patches appear to act on the autonomic cardiovascular factors influencing heart rate variability in the hypothesized direction. This technology can be used to augment neurotherapy especially in cases characterized by chronic stress or fatigue factors.

<https://cdn.sanity.io/.../6a2247f5499d8ca571ec984fb61d2d8...>

Heart Rate Variability Signal Parameters Quantify Skin Cooling Effect of Energy Patches During Rest and Exercise in Young Healthy Individuals

This study shows that the normalized LF/HF derived from spectral analysis of HRV signals could be used to quantify the parasympathetic dominance or the localized skin cooling effect of non-transdermal energy patches during rest and immediately after mild exercise in young healthy individuals. This allowed people to exercise even more because they would not feel the heat and tiredness as much.

<https://cdn.sanity.io/.../0d9a08b9484e2f7a6f0000d8ec237c8...>

Human Clinical Study of the Efficacy of LifeWave Energy Patch in Improving Flexibility, Strength and Endurance in Healthy Humans

A pilot human clinical study examined the efficacy of the LifeWave Energy Patch to increase flexibility, strength and endurance in ten healthy subjects. Results indicate that Life Wave Patches significantly increase performance in one flexibility test and three different tests of strength and endurance.

<https://cdn.sanity.io/.../0412300a77b621de25a40d5bc372e7a...>

Investigative Study of Long-Term Effects of LifeWave Patches Using Electro Meridian Analysis System (EMAS)

There was a definite trend in perceived energy or lack thereof in direct relationship to using the active patch (i.e., energy increased) or the passive patch (i.e., energy decreased) and the readings that corresponded to wearing of the patch.

<https://cdn.sanity.io/.../ee1a30bb1d7bc9a0072370853091c3a...>

Responsiveness of Horses to Biofrequency Modulation After Acupuncture Palpation Energy Enhancer patches, when placed according to the technique outlined in this paper, consistently alleviated back pain in horses, as assessed by acupuncture palpation.

<https://cdn.sanity.io/.../1c3899b4ec5aae230047062f77a871c...>

The Effect of a Non-Transdermal Surface Patch on Mitochondrial Function

Application of the LifeWave Energy Enhancer patch produced a significant increase in maximum aerobic ATP, maximum ATP from fatty acid metabolism, resting ATP, and maximum aerobic work.

<https://cdn.sanity.io/.../d3534325abc0a1b989e192ed2fba30f...>

Aeon Patch Studies

A Double-Blind Placebo-Controlled Heart Rate Variability Investigation to Evaluate the Quantitative Effects of the Organic Nanoscale Aeon Patch on the Autonomic Nervous System
This study provides supportive evidence that stimulation of an acupuncture point by Y-Age Aeon patches improves the physiological functional status of 7 organs as measured by an Electro Interstitial Scanning (EIS) system. The improvement in organ function is supportive of an anti-aging claim. This also supports the idea that increasing use of the patches improves the effects on cellular organ function.

<https://cdn.sanity.io/.../2f78eb925bcb3a9912a21ff592f01cd...>

Amino Acid, Neurotransmitter, GCV and Physiological Testing of the LifeWave Y-age Aeon Patches

The significant changes detected for Glut@m@te $p < 0.027$ and LDOPA $p < 0.013$ within the active group and for LDOPA $p < 0.0046$ between active and controls for neurotransmitter parameters would be consistent with increases in Dopamine production and is significant as Dopamine is necessary in smooth muscle motor coordination and the continued beating of a person's heart. The significant change in the amino acids Cysteine $p < 0.025$, Glut@mine $p < 0.031$, Serine $p < 0.0211$ and Proline $p < 0.037$ in only a day is also relevant. Rapid positive change in LDOPA is consistent with the advertised function of the Y-Age Aeon product as is the increase in Glut@mine.

<https://cdn.sanity.io/.../5a2fd42b6eb5efb0005589259a893c5...>

Characterizing the Effect of the Energy Emitted by LifeWave Patches on Human DNA

This study is designed to demonstrate that Lifewave Energy Enhancer and Y-Age Aeon patches emit an energy field and to develop a cell-free in-vitro bioassay for this emitted energy. Human DNA was used as a target biomolecule because it is known to respond to both classical and non-classical electromagnetic (EM) fields.

<https://cdn.sanity.io/.../2932b96b03060bd695b3ac8b5ff30da...>

Implications of Heart Rate Rhythm Analysis for the Study of LifeWave [Y-Age Aeon] Patches

This study provides supportive evidence that stimulation of acupuncture points (CV6 and CV17) by Y-Age Aeon patches has a physiological effect on the body of increasing parasympathetic activity of the autonomic nervous system as evidenced by electrocardiogram.

<https://cdn.sanity.io/.../d5ccb12835f297e7ffd6b65a53cb548...>

Carnosine Patch Studies

Application of Carnosine Patch Improves Cellular Physiological Status in Different Organs

A study done by scientists at the University of Texas at El Paso showed very significant or highly significant improvement in the physiologic functional status of the pancreas, liver, kidneys, intestine, adrenal glands, hypothalamus, pituitary gland, and thyroid.

<https://cdn.sanity.io/.../e9c4e3a952510f69327509d87a1e7c3...>

Nanoscale Carnosine Patches Improve Organ Function

Conducted in 2010, this double blind, placebo-controlled study shows that the Y-Age Carnosine patch significantly increases flexibility, balance, strength and endurance in healthy humans. These increases range as high as 125 percent for strength and endurance, nearly 30 percent for flexibility, and 100 percent for balance. Further, it's likely that this patch produces greater or sustained effects when worn for longer periods. These results also demonstrate that this patch considerably decreases the lactate threshold and heart rate at lactate threshold, improving endurance in athletic performance. Importantly, no test subjects experienced adverse effects wearing the Y-Age Carnosine patch.

<https://cdn.sanity.io/.../2db01b2c46702db0d1c2f1d675fe3a8...>

Report for Pilot Clinical Study of LifeWave Y-age Carnosine Patch in Lowering Blood Lactate Levels

The results demonstrate that the carnosine patch significantly decreases the lactate threshold and heart rate at lactate threshold. This means that the carnosine patch can improve endurance in athletic performance.

<https://cdn.sanity.io/.../e7d052be41475cc820c5b7f328b1c31...>

Testing LifeWave Anti-Aging Carnosine Patches for Restoring Mental Decline

Those participants in the treatment group who wore carnosine patches achieved significant improvement in cognitive function.

<https://cdn.sanity.io/.../a3b3ee5e8277903eb2a046de02db3e6...>

Silent Nights Patch Studies

Hormonal, Amino Acid, Neurotransmitter, GDV and Physiological Testing of the LifeWave Silent Nights Patches

While this study's sample size was small, all participants experienced a significant change in serotonin levels. Serotonin is a precursor necessary to make melatonin. Two participants even saw a 202% increase in melatonin over 7 days.

<https://cdn.sanity.io/.../b5079be723e57e9ab29f10184e329c4...>

The Effects of LifeWave Silent Nights Patches on Sleep

LifeWave Silent Nights improved quality of sleep, length of sleep and decreased daytime sleepiness in 72% or more of these 25 individuals.

<https://cdn.sanity.io/.../6a96c645f25081d0367b4abdaede65d...>

Treatment of Insomnia with Energetic Acupuncture Point Activation: A Double-Blind Placebo Randomized Trial

This study used three standard scales and questionnaires used in sleep studies. The participants who wore Silent Nights patches showed sleep improvements in all three scales.

<https://cdn.sanity.io/.../97213b4916c4422fd26e049c2a6b2ee...>

SP6 Patch Studies

Mild Stimulation of Stomach 36 Acupuncture Point by Organic Nanoscale SP6 Patch Improves Cellular Physiologic Functional Status of Different Organs

All tested organs achieved significant improvement in their functional physiologic status after wearing the SP6 Patch 12 hours a day for 1 week compared to baseline with an overall average statistical power > 89% as measured by EIS.

<https://cdn.sanity.io/.../27b9d1e2b495cdf4af236cf116ff389...>

SP6 Improves Organ Function

The overall data in this study demonstrated that SP6 patches worn daily over a period of 1 week produced a highly significant improvement in physiologic functional status of the liver, pancreas, right and left kidneys with an average statistical power > 97% and a very significant improvement in the functional status of the thyroid, intestines and hypothalamus with an average power >87% and a significant improvement in the adrenal glands with an average statistical power > 75%. Stated differently all organs except the pituitary gland achieved significant cellular physiologic functional status improvement compared to baseline with a statistical power of >89%.

<https://cdn.sanity.io/.../3e0f6ae46cd43c4971e066a3a1b98e3...>

AcuLife Patch Studies

(Icewaves rebranded for horses and animals in general)

AcuLife Patches Produce Pain Relief in Horses

The overall data demonstrated that in every case there was a change in the sensitivity of the palpated points after application of the AcuLife Patches to painful points. In each case the sensitivity and pain observed were considerably lower compared to pre-patch application. The infrared thermal imaging data showed related changes as noted in palpation data sheets. In some cases, there was not just a cooling effect, but sometimes there was a warming effect: an obvious attempt of the body to balance the system.

<https://cdn.sanity.io/.../0868d02989153e972c064d787602914...>

Single-Site, Open-Label Study Testing Horses for Traces of Performance Enhancing Drugs (PEDs) post AcuLife Application

AcuLife patches are used for the treatment of pain in horses and can be used without fear of introducing PEDs in the horse, especially in times of competition. No drugs found because nothing enters the bloodstream using the patches.

<https://cdn.sanity.io/.../217004d872fd9bc33736edd5396672c...>

Patch Mechanisms and Safety

Different Types of Nanotechnology Devices

by Steve Haltiwanger, M.D., C.C.N.

<https://cdn.sanity.io/.../669350fb2d45f1efae2981cd2dec27c...>

Dr. Dean Clark

by Steve Haltiwanger, M.D., C.C.N.

<https://cdn.sanity.io/.../0c12897569aeb9f78c9bc91b308a042...>

U.S Anti-Doping Agency

<https://cdn.sanity.io/.../5f2340516cecbf650db4268af85335a...>

World Anti-Doping Agency

<https://cdn.sanity.io/.../9167aa218bf27ac7f3634738853d499...>